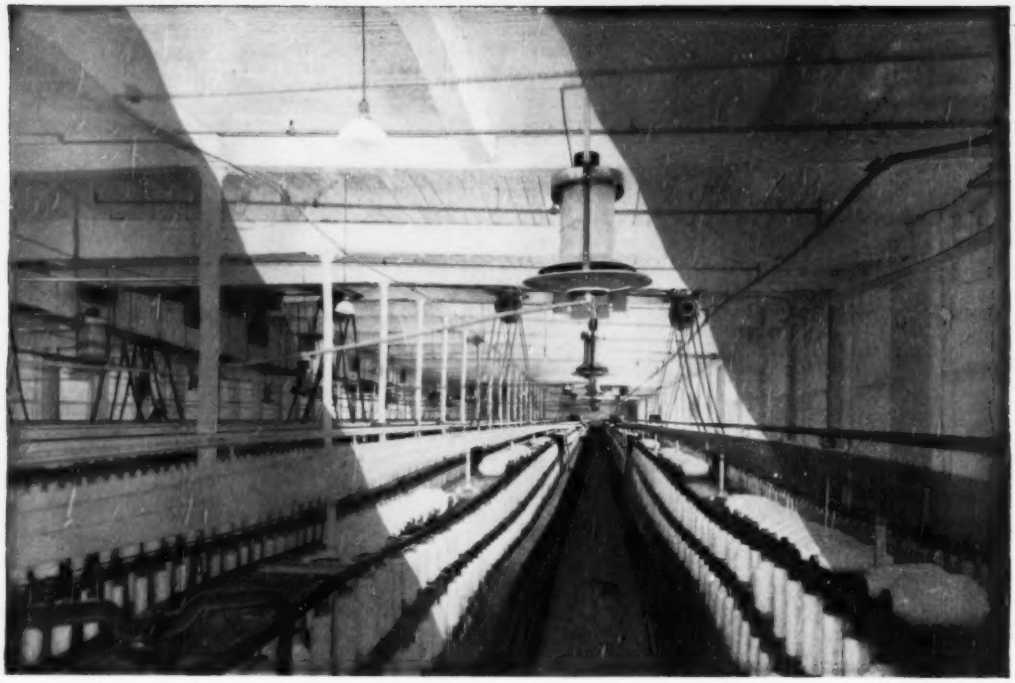
Give
enough!
FOR ALL
RED FEATHER SERVICES

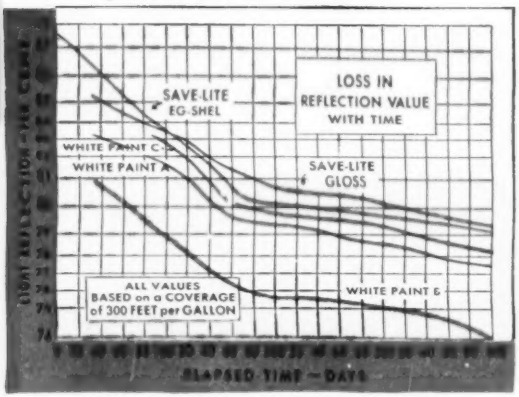
Here's a Mill Man's Lab

STARTS ON PAGE 89



PAINT AWAY DARKNESS with

KEM SAVE-LITE ...the WHITER MILL WHITE!


LOSS IN REFLECTION VALUE WITH TIME
SAVE-LITE EG-SHEL
WHITE PAINT C
WHITE PAINT A
SAVE-LITE GLOSS
ALL VALUES BASED on a COVERAGE of 300 FEET per GALLON
WHITE PAINT B
ELAPSED TIME — DAYS

SAVE-LITE STAYS WHITE LONGER!

Note how Save-Lite retains its reflective qualities, or whiteness, longer than any of the other typical interior white finishes used in this test. Similar tests with the same finishes show Save-Lite to have better opacity and higher initial whiteness as well.

To insure better seeing conditions for your people—longer—look for these things when you buy a Mill White Finish:

1. High light reflecting power—the percentage of light reflected by the paint is a measure of its whiteness.

2. Ability to remain white indefinitely—you are buying whiteness—will the paint that you apply *stay* white?

3. Covering capacity—it takes a paint with maximum hiding power to supply maximum light reflectance at lowest cost per unit area.

4. Durability—the paint you put on now will be the foundation when painting schedules again call for refinishing. Make sure that foundation is as sound 5 to 10 years from now as it is today!

Sherwin-Williams Save-Lite Finishes provide a complete line of brilliantly *whiter* interior finishes because all of these factors are accurately controlled. Save-Lite not only gives greater coverage per gallon and higher light reflectance but it retains its whiteness and reflective qualities longer (see chart). These facts are borne out not only in laboratory tests but in year-after-year experience in leading textile mills the country over.

Before selecting your interior finishes, let a Sherwin-Williams representative demonstrate the advantages of Sherwin-Williams Kem Save-Lite—the *whiter* White! The Sherwin-Williams Co., Cleveland 1, Ohio.

SHERWIN-WILLIAMS
INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES
MILL VILLAGE PAINTS

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10 Reasons WHY DRAPER PARTS ARE THE *Best for Your Looms!*

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2. THEY CANNOT BE DUPLICATED
3. DRAPER SERVICE IS INCLUDED
4. THEY GIVE PROVEN PERFORMANCE
5. THEY COST LESS THAN SUBSTITUTES
6. THEY GIVE DEPENDABLE PERFORMANCE
7. THE RESULT OF COMBINED EXPERIENCE
8. THEY KEEP YOUR LOOMS AS GOOD AS NEW
9. THEY ARE CUSTOM BUILT FOR YOUR LOOMS
10. THEY GIVE THE BENEFIT OF CONSTANT RESEARCH AND DEVELOPMENT

DRAPER

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. . . when you lubricate with TEXACO STAZON

You make life easier for your cloth inspectors – and save yourself expense – when you spin and weave with *Texaco Stazon*. In top roll bearings, for example, *Texaco Stazon* assures stain-free yarn because it won't creep onto the cot, nor throw off at high speeds.

As a loom lubricant, *Texaco Stazon* stays on the bearings and off the goods. It won't drip, or splatter under the shocks and vibration of weaving. It does not form gummy deposits and is not affected by humidity. *Texaco Stazon* is easy to apply and long lasting – making fewer applications necessary.

If oil spotting is causing you trouble and expense, a Texaco Lubrication Engineer can show you how to eliminate it – can help you reduce maintenance costs on *all* your machines. Just call the nearest of the more than 2,000 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

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TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

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PUBLISHED MONTHLY

A McGraw-Hill Publication

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THE *Long-Range* VIEW

The Next Ten Years

"By 1960, U. S. consumption of textile fibers will probably exceed six billion pounds a year—more pounds than at the height of the postwar boom. Spectacular progress may be looked for in the use of synthetic fibers. The new acrylic fibers—now of little importance volume-wise—may then account for 200 million pounds of fiber annually."

The foregoing quotation is from a report called "The Next Ten Years," by Dr. Dexter Keezer and other members of the staff of the McGraw-Hill Economics Dept. This report, which covers all U. S. business, was prepared for the use of the McGraw-Hill organization. TEXTILE WORLD, which assisted Dr. Keezer in the textile areas of this study, has received permission to make a few quotations from it.

The textile predictions are probably conservative. We feel that progress made in the textile industry during the next decade will depend chiefly upon three factors: (1) the further development of synthetic fibers, (2) the redesigning of machinery, and (3) the progress in chemical finishes. Our September issue gave some indication of what is coming in synthetics.

"The gains for synthetics will cut into use of the older fibers," Dr. Keezer's report continues, "even though population growth keeps total textile requirements moving upward. Wool particularly may lose its market to the synthetics, just as silk has lost out." Cotton will not be drastically hurt, he says, but will drop to 60% of the total compared to 70% in 1949.

"Market trends are also likely to mean changes in the composition of apparel sales, and so in the production of finished textiles. The trend to greater leisure will mean more spending on clothing for leisure-time wear. This will be particularly true of men's clothing as the work-week shortens. On the other hand, more women proportionately will probably be working. And this will cause a different pattern in their apparel buying."

Dr. Keezer is an economist and not a textile technician. As textile-technician editors, we should point out (1) the significance of the threat of synthetics to wool and (2) the new type of textile mill that is coming into being—the multi-fiber mill.

It is not generally realized how far wool is sliding along the way of silk. Barring total war (remember how war helped push silk into near oblivion?), it will take longer for synthetics to supplant wool than it did for nylon to replace silk. But look at all the signs we have, pointing to use of less wool in the U. S.: lighter-weight clothing, success of spun-synthetic fabrics, the good wool-like properties of acrylic fibers, the demand for washable garments, wool price supports (and also price fluctuations), decline in domestic production.

We expect that Giles Hopkins and others of our good friends interested in wool will take us to task for our pessimism regarding wool. But we are sure they will agree that today's threats to wool are greater than at any previous period in this century.

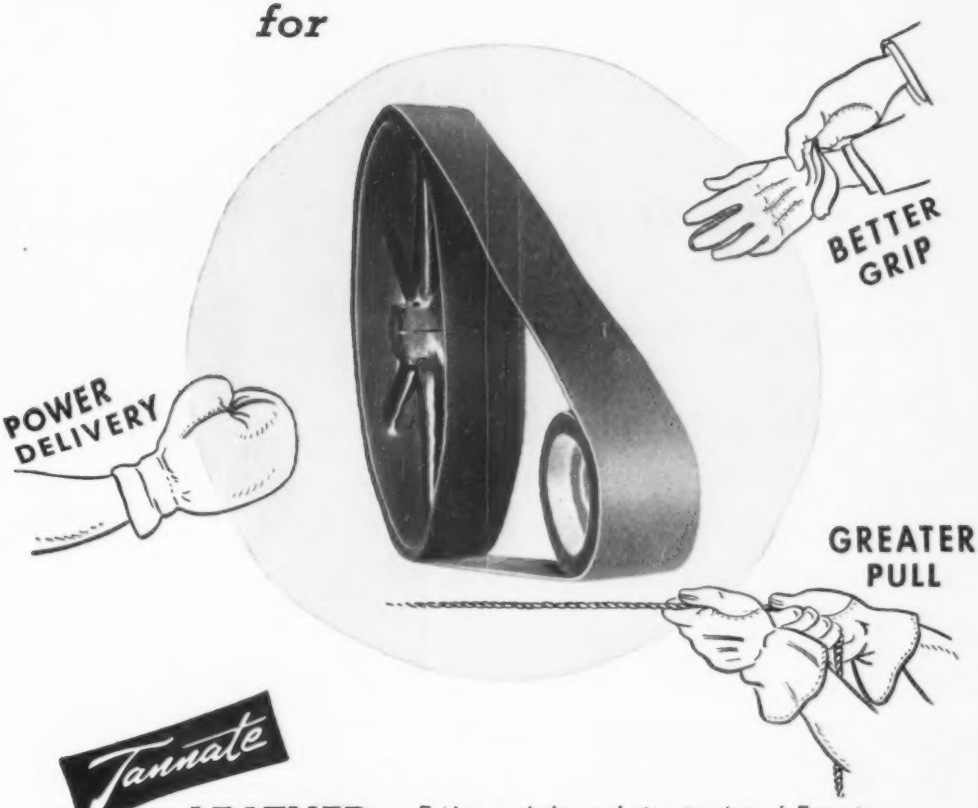
We do not worry about the effect of fiber changes on textile mills. In the past, mills have almost universally profited when they changed to new fibers. We feel they will in the future. We have high hopes particularly for the multi-fiber mills—that is, mills that are today being set up to handle a wide variety of fibers, instead of just one. We have reported and will continue to report developments in this crucial area.

There are sure to be some serious ups and downs during the next ten years. Mill managers who keep abreast of developments, who are not afraid to make changes, who plan ahead and don't just ride along, are reasonably sure to grow with the country—the best will grow faster—during the next ten years. Those who do not plan ahead will lead their mills to the end of the road.

C. H. Bendigo

Feel the *Glove-like* Surface

for



Tannate

LEATHER BELTING

Evidence of the exclusive tanning of Tannate Leather Belting is clearly found in the glove-like surface . . . proof you can see and feel for yourself. This Tannate surface provides a greater tenacity of the belt to the pulleys . . . it assures more pulling power . . . greater power transmission . . . and, for you, more yarn or cloth.

Tannate is the regular choice of a great many textile mills because of its superior qualities, longer service life with fewer maintenance problems. Actual records show Tannate's ability to out-pull and out-last competitive types of belting.

Let us tell you more about it . . . write . . .

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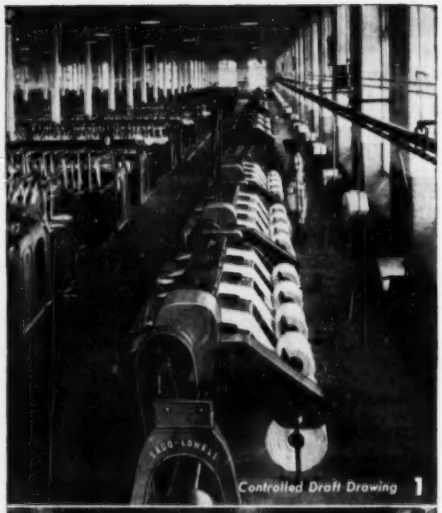
PRODUCERS OF FINE LEATHER FOR 248 YEARS

Pelzer, Dominion, Pacolet,

...renowned in the industry for efficiency in operation, quality in production, and success in management.

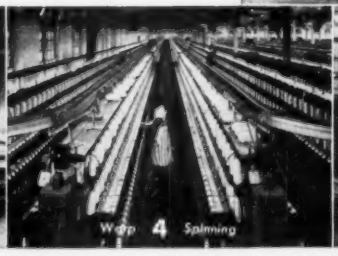
These successful mills, like hundreds of others throughout the industry, have proved to their own profit and satisfaction that

it's wise to SACO-LOWELLize.


Controlled Draft Drawing 1

FS-2 Roving 2

5 Spinning with Shaw Drafting Unit Assembly


Warp 4 Spinning

New Era Spindles on Warp Spinning 3

PHOTOS: Nos. 1 and 3, Pelzer Mills; Nos. 2 and 5, Dominion Textile Company, Limited; No. 4, Pacolet Manufacturing Company.

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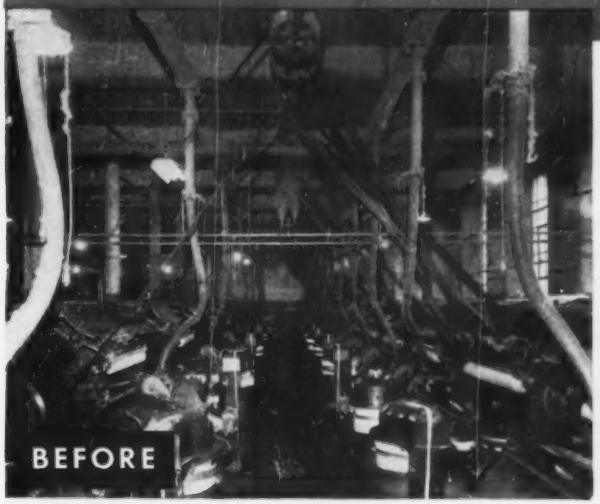
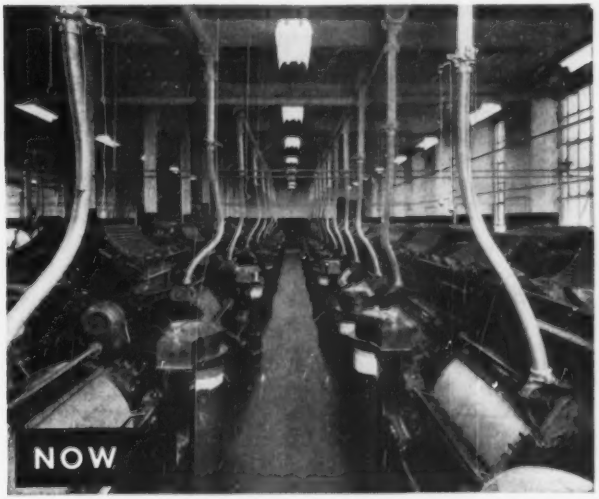


Inefficient group belt drive made room dark, dirty, noisy and dangerous. Not shown in this picture are the extravagant maintenance costs, or the dollars wasted when motor failures on main line-shafts caused total shut-down.

* SAFE
* POSITIVE
* ECONOMICAL
* COMPACT



Improved with Link-Belt individual silent chain drives, flexible unit operation at uniform speeds keeps cards at top capacity. Room is bright, clean, quiet and much safer. And there are big savings on maintenance, power and oil consumption.

For power transmission to textile machines you must have maximum capacity at uniform speed, with minimum maintenance — exactly what this mill obtained with Link-Belt silent chain drives! They do the job better — deliver full rated horsepower, without slip; run slack on short centers; absorb shock loads. They wear longer — are unaffected by idleness, moisture or temperature variations. And they're precision built, with such Link-Belt features as segmental bushings and case-hardened, free-rotating pins.

11,973

LINK-BELT Silverstreak

LINK-BELT COMPANY

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SILENT CHAIN DRIVES

BETTER YARNS AT LOWER COSTS

. . . that's what interests every yarn spinning mill

SACO-LOWELL-TORRINGTON

S-L-T NEEDLE BEARING TOP ROLL

FOR ROVING AND SPINNING

is daily helping to produce better yarn in many mills that are operating on a quality-conscious and cost-conscious basis.

In this highly competitive era, it is becoming increasingly necessary for mills to change their out-moded conventional top rolls to the S-L-T Needle-Bearing type. Here are just a few of the reasons:

OVER 450,000 HAVE BEEN INSTALLED

ELIMINATE WEEKLY OILING

Pre-lubricated S-L-T Top Rolls

a) save the oiling time that is required for the old shell roll
b) let your frames roll, and *produce yarn* — instead of wasting ½-hour weekly, per frame, for oiling
c) save 90% of the oil you now buy for top roll lubrication
d) keep frame, cots and yarn from getting messed up with oil
e) enable you to re-lubricate at the annual scouring period when the frame is down anyway

ELIMINATE ROUTINE "ROLL-PICKING"

The smooth, metal surfaces are all practically lint-shedding, so that stray fibers and short linty waste have a diminished tendency to cling to the exposed surfaces . . . especially since there is no film of oil or grease acting as an adhesive.

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Shops at BIDDEFORD, MAINE and SANFORD, N. C.

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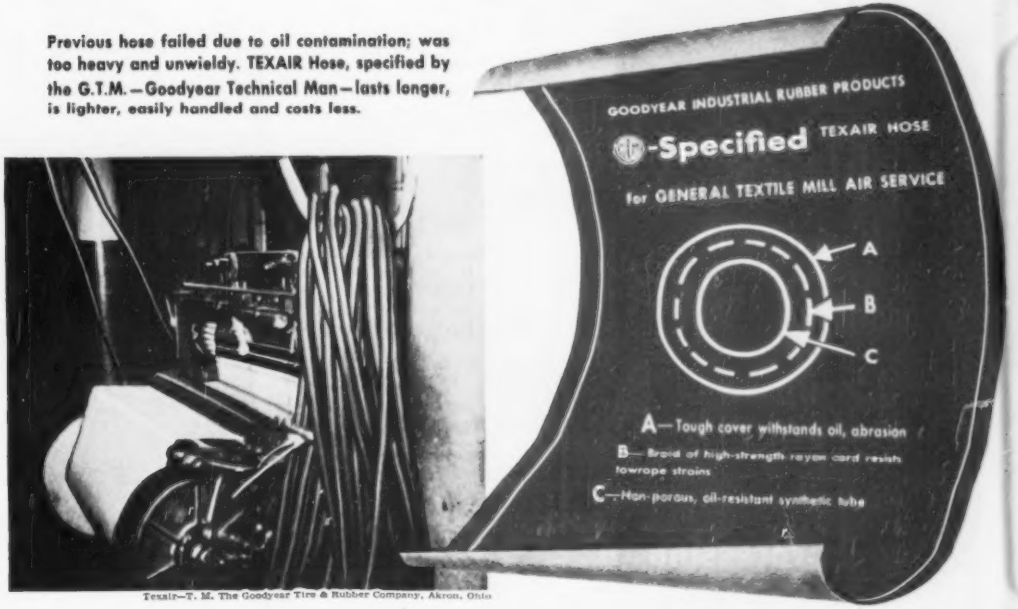
Texair Hose User Reports:

Costs reduced Efficiency increased

Previous hose failed due to oil contamination; was too heavy and unwieldy. TEXAIR Hose, specified by the G.T.M.—Goodyear Technical Man—lasts longer, is lighter, easily handled and costs less.



Texair—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

AFTER installing **Texair** hose for cleanup duty, plant superintendent writes that its biggest advantage is lightness that lets the cleanup crew do a full day's work—because they don't tire dragging around heavy hose. Other outstanding advantage is low cost coupled with long life. Get in touch with the G.T.M. to see how you can have these advantages with **Texair.**

FOR HOSE, FLAT BELTS, V-BELTS, MOLDED GOODS, PACKING, TANK LINING *built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.*

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GOODYEAR

THE GREATEST NAME IN RUBBER

how

NOPCO* FUA

the modern self-fulling self-scouring wool oil

adds up to better wool processing at less cost

Carding

Nopco FUA assures:

Excellent fiber lubrication

Elimination of static and fly

No gumming of cards

Elimination of glazing on leather rub roll apron

Cushioning of the leather

Result: Better carding—higher production—loftier, rounder roving

Spinning

Nopco FUA assures:

Improved spinning—on mules or frames

Fewer broken ends—because of increased yarn strength

Result: Higher spinning production

Steaming

Nopco FUA

does not set in the yarn after steaming, nor in the fabric when greige goods are crabbed.

Result: No cloudy, shady piece dyeing

Fulling

Nopco FUA assures:

Superior fulling (with excellent sudsing action) without addition of soaps or detergents

Quick, uniform shrinkage—with good cover

Result: Simpler, improved fulling

Scouring

Nopco FUA assures:

Ultra-efficient scouring—again without addition of soaps or detergents

Shorter rinsing time

Very low residual oil content (0.2%)

Result: Better, faster scouring

No other wool oil duplicates the many advantages of Nopco FUA

Send for Full information today.

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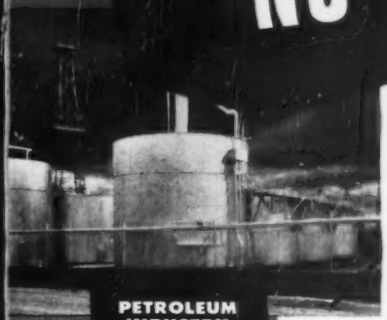
CORROSION PLAYS NO FAVORITES

CHEMICAL INDUSTRIES



PETROLEUM INDUSTRY

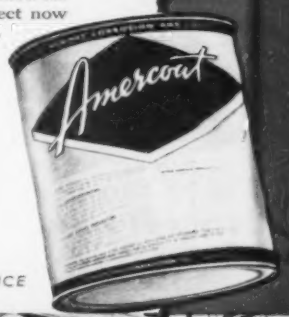
You must PROTECT or PAY
...you have no other choice

No business escapes the effects of corrosion. It costs industry over $6,000,000,000.00 annually. Yet much of this costly damage might be avoided by taking just two simple steps—

1. Check the danger points in your plant—manufacturing equipment, piping, valves, tanks, motors, and all similar items.
2. Protect them with Amercoat—the corrosion-resistant coatings; each designed to meet specific conditions.

Most conventional coatings fail when corrosion threatens, because they are neither designed nor suited for severe service. Don't risk needless loss—protect now with Amercoat.

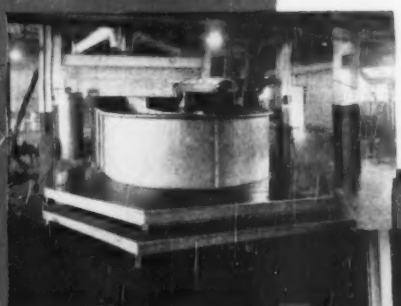
MEAT PACKING



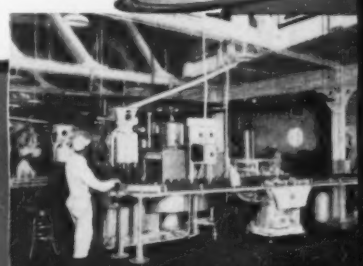
AMERCOAT CORPORATION

A Division of
American Pipe and Construction Co.
4809 Firestone Blvd., South Gate, California

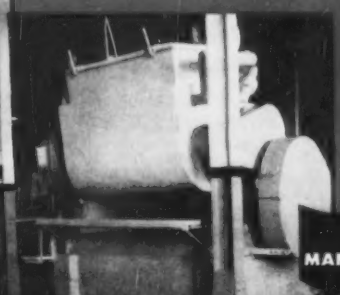
FOLLOW THE LINE OF *most* RESISTANCE



PAPER MILLS



BEVERAGE PLANTS



RAYON MANUFACTURING

3-M

Cut Maintenance and Replacement Costs with these two Benjamin

Humidity-Defying
TEXTILE LIGHTING SYSTEMS

New Porcelain Enameled Channels and Reflectors for Continuous-Line Lighting

Porcelain Enameled Channels with special provisions for moisture-proof line-wire entrance and conduit suspension, are now available with this new Benjamin "Lite-Line 40"* Porcelain Enamel System. Especially designed to combat the excessively moist atmospheres found in textile mills, these new units are completely protected against the danger of rust and deterioration due to moisture accumulation.

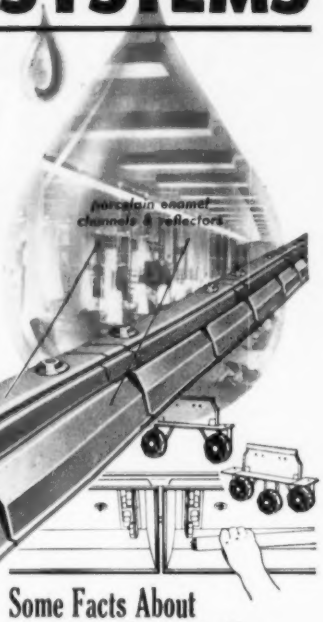
A virtually unbroken surface of durable Porcelain Enamel covers the channels. Two cast metal flanges provide a moisture-proof method of conduit suspension and wire entrance. Thus, the Benjamin "Lite-Line 40" System provides longer life and less maintenance because there is no place for rust to get a foothold.

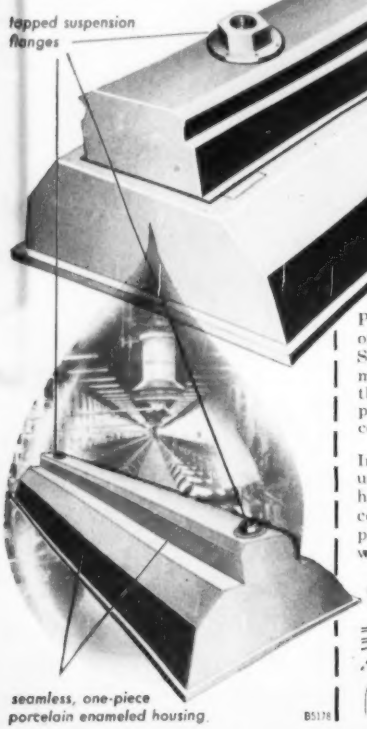
In addition, the user gets all the maintenance cost-cutting advantages of the exclusive Benjamin "Springlox" and "Lok-Latch" advancements, described here.

*for use with two or three 40-w, 48" bi-pin lamps.

All-Porcelain Enamel Individual Unit Lighting

In locations where a lighting system of individual units is preferred, Benjamin "TX-40" Units* meet all the requirements for long-life, trouble-free service in the highly-humid atmospheres found in the textile industry. This one-piece, All-Porcelain Enamel Unit completely protects against rust due to the accumulation of moisture.



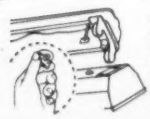


seamless, one-piece porcelain enameled housing. B5178

The one-piece steel construction, by virtue of which the channel becomes an integral part of the housing, makes possible a smooth, unbroken surface of "Life-Time" Porcelain Enamel. There are no cracks or crevices where moisture can collect. Special construction of tapped, cast metal suspension flanges, the same as those found in the "Lite-Line" System, prevents entrance of moisture around conduit stems.

In addition, "TX-40" Units bring the users the famous "Springlox" Lampholders, illustrated at right, and a Porcelain Enameled removable reflector plate for easy access to ballast and wiring.

"Lok-Latch" Reflector Fasteners



Self-adjusting, hand-operated "LOK-LATCH" FASTENERS on "Lite-Line 40" reflectors cut maintenance time by permitting easy removal of reflectors.

Some Facts About "Springlox" Lampholders

Here are some of the tests which "Springlox" has passed in the Benjamin Development and Testing Laboratory:

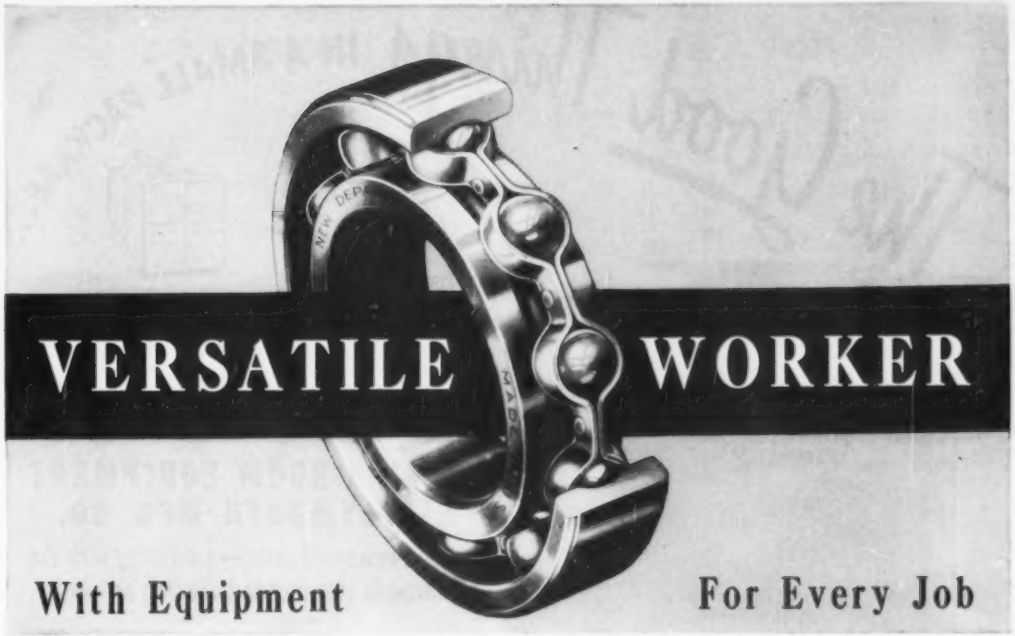
(1) Humidity Chamber Test—1000 hours in 95% humidity at a minimum temperature of 95° F.
(2) Spring and Contact Fatigue Test—8000 simulated lamp changes.
(3) Vibration Test—100 hours at 25 cycles per second.

4 Ways in which "Springlox" Cuts Maintenance Costs:

(1) Only ½ the usual number of service stops required . . . all lamp starters are in one spot (as many as 6 lamps and 6 starters can be replaced from one location on an 8 ft. "Lite-Line 40" channel.)
(2) Permits one-hand lamp insertion
(3) Locks lamps in place
(4) Cushions them against vibration.

Get Up-To-Date on Humidity-Defying TEXTILE LIGHTING! Send for LATEST, FREE DATA BULLETIN—write Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Ill.

BENJAMIN
Textile Lighting
FLUORESCENT
Sold Exclusively Through Electrical Distributors



With shield on one side for protection against abrasive dirt.

With shields on both sides to keep dirt out and lubricant in.

With snap ring for location of bearing in housing.

With snap ring and either one or two shields as required.

With contact seals, lubricated for long life without attention.

A standard New Departure single row ball bearing may be had with about a dozen different combinations of seals, shields, snap rings, etc., to simplify mounting, lubrication or enclosure—in short it may be had with the equipment to do each specific job best.

But basically you always have one of the most useful and dependable workers ever devised—taking radial loads and thrust loads from either direction—locating parts accurately and permanently -all in one unit requiring no time-wasting adjustment or other attention.

Nothing Rolls Like a Ball

NEW DEPARTURE BALL BEARINGS

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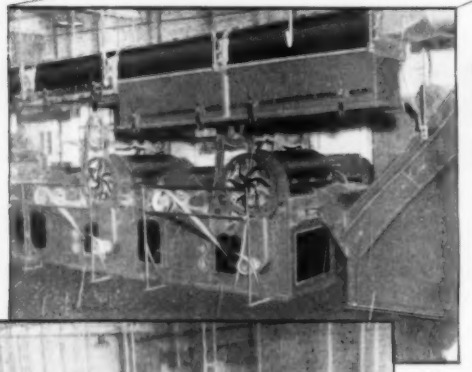
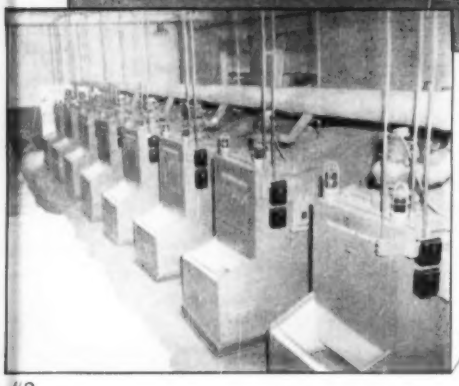
The Good Things IN A SMALL PACKAGE...



#1.



#2.

Modern Opening Room Installation at Plymouth Mfg. Co., Inc., McColl, S. C., showing (#1) H & B 30" Tandem Opening and Cleaning Unit, Superior Cleaner and Rake Conveyer. (#2) H & B Blending Feeders.

H&B

OPENING ROOM EQUIPMENT AT PLYMOUTH MFG. CO.

Laid out in a small area — operating with the maximum in cleaning and opening efficiency.

H & B's compact installation at Plymouth Mfg. Co., Inc., McColl, S. C. is working proof that modern opening room machinery can combine economical space-saving with profitable efficiency.

The "good" things that come in this "small" package are: eight Blending Feeders and one Independent Waste Feeder, an H & B Tandem Opening and Cleaning Unit, a 45° elevator type Superior Cleaner, English Cleaning Trunking and Rake Conveyor.

The Blending Feeders, 35½" wide between the frame sides, contain a spiked elevating apron and a plain slat feed apron. All eight of these and the Waste Feeder have individual motor drive and feed onto a 53' extended feed apron of the Hopper Bale Opener. The Blenders are all-metal and feature sprinkler attachments, tell-tale off-and-on lights and sheet metal closing doors on the hopper.

The H & B 30" Tandem Opening and Cleaning Unit contains 2 Buckley Beaters mounted on anti-friction ball bearings. These smooth running beaters thoroughly open and clean the cotton. The covers are equipped with a beater-locking device for protection of the operator.

After passing over the delivery apron of the Tandem Unit, the cotton feeds directly into a 45° elevator type Superior Cleaner with jumbo magnet, thence through piping and English Trunking back to a condenser and rake conveyer for delivery to 4 H & B One-Process Pickers.

The entire system is automatic. The cotton is not touched from the time it enters the blender until it comes off the picker as a finished lap. At all times the correct flow of opened and cleaned cotton is maintained by modern feed controls actuated by a mercury switch on the pickers.

H&B AMERICAN MACHINE CO.

FACTORY, EXECUTIVE OFFICES AND EXPORT DIVISION • PAWTUCKET, R. I., U. S. A.
Branch Offices: Atlanta, Ga. — 815 Citizens and Southern National Bank Bldg.
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Builders of MODERN TEXTILE MACHINERY

YOU WOULDN'T BUY A WATCH THIS WAY...

Why buy lubrication in bits and pieces?

Correct Lubrication is a lot more than just drops of oil and dabs of grease.

It's knowledge of your machines and their exact lubrication needs. It's the *right* lubricant, applied the *right* way. It's engineering service that helps you create one unified lubrication program throughout your plant.

With Socony-Vacuum, you get . . .

1. A study of all your machine lubrication requirements.
2. Recommendations of the right lubricants.
3. Engineering counsel on special problems.
4. Help on reclamation, storage, handling of lubricants.
5. Continued cooperation with Plant Personnel.
6. Reports on progress and results.

Call your Socony-Vacuum Representative *today!* Get this program started in *your* plant...to assure more continuous production, lower maintenance costs.

SOCONY-VACUUM

GARGOYLE Lubricants

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Correct Lubrication

WORLD'S GREATEST LUBRICATION KNOWLEDGE AND ENGINEERING SERVICE

SOCONY-VACUUM OIL COMPANY, INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

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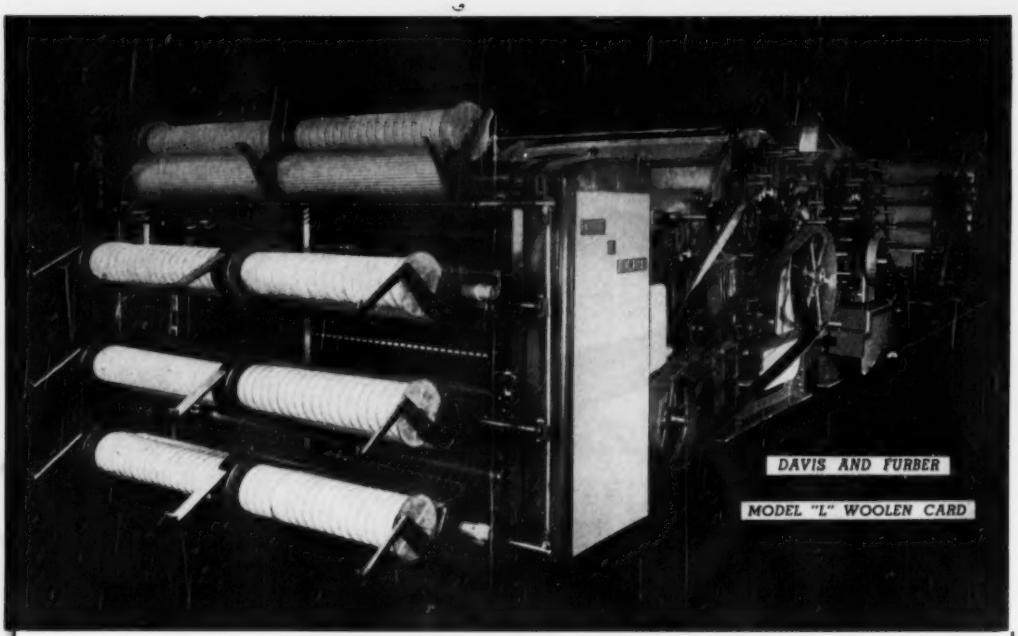


Production + Quality = Profit

Are you troubled by poor yarns which reflect in the quality of your product?

Are you paying more to produce yarn than your competitors?

Are you troubled with constant machinery maintenance problems?

Are your employees jeopardized by unsafe equipment?

And most important:

Are your machines failing to earn the greatest possible profit for you?

Any of these conditions are unnecessary while the services of DAVIS AND FURBER are available.

Starting with the preparation of stock and carrying it through to the finished yarn and even to preparing warps, we build the best machine for every process. Therefore, we can accept the unified responsibility of equipping a mill to produce the highest quality — lowest cost yarns.

One Hundred and Eighteen years of experience and engineering skill make DAVIS AND FURBER best qualified to modernize an ailing yarn department. Our engineers are successfully meeting these problems, constantly.

Don't be plagued by high cost, inferior yarn — it isn't necessary. DAVIS AND FURBER has given many other mills efficient, high quality yarn production. We can do it for you.

Don't Wait—Investigate

Since 1832

NORTH ANDOVER, MASS.
CHARLOTTE, N. C.
U. S. A.

SANDOZ PRESENTS *The color achievement of the month*

Muted Tones ...BY ALEXANDER SMITH

If we were to continue the *musical* figure of speech used by Alexander Smith in advertising its Set-twist broadloom carpeting...

seven shades of *muted* lustre,
from *hushed* pastels to *resonant*
deep tones

we might be tempted to add...*and the melody lingers on.*

For the color beauty of fabrics dyed with Sandoz colors—which are among the supplies used by Alexander Smith—is virtually imperishable.

To preserve the character of the shade in the face of light, cleaning and wear, carpeting manufacturers use such Sandoz colors as

ALIZARINE L VIOLET RCN
BRILLIANT ALIZARINE L BLUE 3F
XYLENE FAST RUBINE 3GP
XYLENE L YELLOW 2G AND 3G

In the mill, too, these Sandoz colors are a delight to use—they are exceptionally level-dyeing even in the lightest shades, and they retain their full brightness throughout processing.

For any chrome, acid or direct dyes ...or auxiliary chemicals...and for both natural and synthetic fibres... be guided by the successful "color achievements" you see in these Sandoz advertisements.

COTTON AND RAYON DYERS! NOW — DIRECT DYE WITH COMPLETE CONFIDENCE IN COLOR FASTNESS

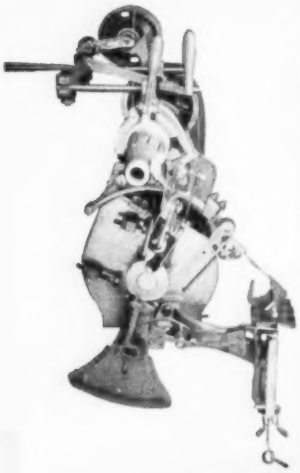
New CUPROFIX colors and after-treatment give fastness to washing, light, etc., that formerly required more expensive vat dyeing. Write for booklet on CUPROFIX, already adopted by dozens of mills.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

SANDOZ

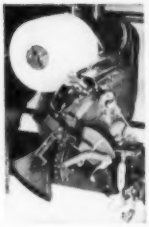


You are looking at the

Most Flexible Winding Spindle

in the industry

This basic spindle unit of the No. 50 Universal Precise Winder is used . . . not only to wind more than 90% of the world's coned synthetic yarn . . . but also to produce a wide *variety* of special work that is only hinted at on this page.

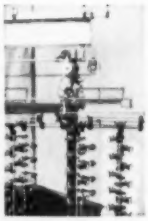


WINDING CREPE WITH MAGNETENSION

This device utilizes a magnetic field to provide constant, smooth tension, eliminating excessive peaks or loss of tension control caused by any uneven delivery from supply package.

WINDING THREAD ON BOBBIN SPOOLS

Large compact packages to deliver thread overend for the cutting trade are wound with this attachment equipped with automatic visible counter. A similar attachment winds the so-called "miniature" bobbin spool.



WINDING MULTIPLE ENDS FOR WIRE INSULATION, ETC.

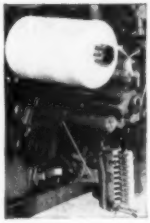
Packages containing up to 30 ends are wound in perfect tape form from packages of previously-inspected yarn. Individual stopping mechanisms for each end permit tying single strands, avoiding "bunch" knots.

WINDING PINEAPPLE CONES OF NYLON

To put nylon into the best delivery form for full-fashioned, tricot, and circular knitting, the No. 50 Pineapple Coner with emulsion attachment is used, winding from tubes previously sized on the Universal No. 250B Single End Sizer.

WINDING 3° 51' CONES

The large diameter of this cone increases production upwards of 12%. It is especially suitable for fine denier nylon because it delivers with more uniform tension on the knitting machine.



WINDING DYE TUBES OF SYNTHETIC YARNS

This Ray-Silk attachment winds synthetic yarn with a minimum amount of applied tension and pressure to produce soft tubes for uniform dyeing.

WINDING TWO OR MORE COPS

Two or more small packages per spindle can be wound with individual paraffin attachment, tension and stopping mechanisms. For example: three cops each 3½ in. long can be wound on one spindle.

WINDING YARN FOR COVERING RUBBER

Here, two tubes per spindle, two ends per tube, are being wound for a rubber covering machine. Covered rubber yarn in skein form is then wound onto pineapple cones for the next operation.

WINDING HAND KNITTING SKEINS

Skeins of home knitting yarn are wound on No. 50 Winders equipped with special electrical attachments for automatically stopping all six spindles simultaneously at the predetermined yardage.

LEESONA®

UNIVERSAL WINDING COMPANY

Universal Division

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Winding and Twisting Machinery for Natural and Synthetic Yarns

PROTECTION PLUS...

for Every Phase of Wool and Worsted Processing with EMERY TWITCHELL OILS!

LUBRICITY

Excellent lubricating characteristics minimizes fiber abrasion and resulting breakage. Increases carding efficiency and provides low fly loss which subsequently results in high wool yield.

SCOURABILITY

All Twitchell Oils scour very readily with a minimum of soap to insure a low residual oil content. Twitchell 7430 Oil is a self-scouring type and practically no soap is required.

EMULSION STABILITY

All are self-emulsifiable and produce unusually stable emulsions that will not curd. The extremely small particle size provides quick even penetration and spreading which results in uniform oil distribution to give uniform lubrication.

NON-STAINING

Oils will not discolor yarns, oxidize, heat up or develop odors even after prolonged storage. Twitchell 7420 is compounded especially for whites and pastels where any trace of discoloration is detrimental.

NON-CORROSIVE

High stability Twitchell Oils will not corrode processing equipment nor deteriorate condenser tapes. Will not gum up card clothing or other parts.

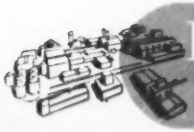
ECONOMY

The processing economy resulting from outstanding performance, coupled with their low initial cost, make Twitchell Oils the best money value for high quality production.

A selection of Woolen and Worsted Oils is offered to accommodate various processing methods, fibers and fabrics. Choose the Twitchell Oil that best meets your requirements.

Twitchell 7410 Wool Oil	Excellent	Very Good	Very Good	Oil or Emulsion
Twitchell 7420 Worsted Oil	Excellent	Excellent	Excellent	Oil or Emulsion
Twitchell 7430 Oil	Excellent	Self-scouring	Very Good	Emulsion only

For a recommendation to fit your particular need, contact our Sales Service Department.



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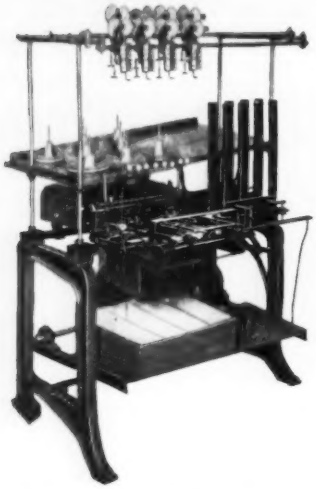
automatic winding for braider bobbins & quills



Cam & gear controls guarantee uniform packages . . . . . .

Fewer working parts reduce maintenance . . . . . .

Parts stocked in Boston and Charlotte . . . . . .

Compact — uses minimum floor space . . . . . .

HACOBA automatically increases your production while reducing operating costs. How? It's fast! Automatically winds faultless bobbins and when full, automatically stops winding, traps and cuts the thread, lowers the bobbins into a tray, supplies new empty bobbins, starts up and proceeds with the winding of a new set of bobbins — entirely without human aid. This change-over is carried out in the space of 4 to 6 seconds. This is the original HACOBA which for 14 years has been mill proven in this country as a quill winder for weaving. It is now introduced as a braider bobbin and quill winder for narrow fabric looms. May we arrange to show you this machine in operation?

SUPER MARKET of the Textile Industry

Atkinson, Haserick & Co.

BUSINESS ESTABLISHED 1823

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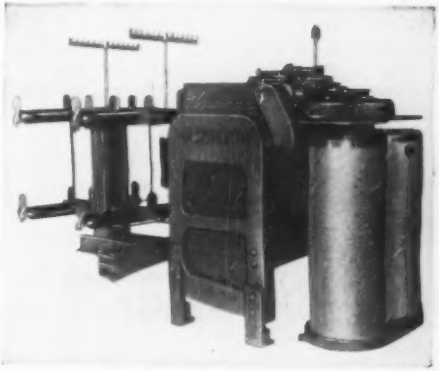
HOLDSWORTH
GILL SCREW CO., INC.

We put our heads together!

TO INCREASE TOP PRODUCTION AND
REDUCE GILLING MACHINE MAINTENANCE

It seemed like a capital idea to put our heads together . . . We'd only have to invest in one hat instead of two and maintenance time for haircuts would be cut in half. Actually, we *did* put our *gilling* heads together so you can now take full advantage of the abbreviated system for producing worsted, blended or synthetic yarns. You pay for only one head of screws and fallers in each machine instead of two, maintain only one head instead of two, while production is equal to two heads. Your production per machine, per dollar invested will be greater than ever before attainable! It's time you counted heads in your gilling department and did something about increasing profits, like sending for complete specifications and photos of the new Holdsworth Gill Reducer. Write or phone us today.



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INQUIRIES TO THE
SUPER MARKET
of the Textile Industry

AN AMERICAN INSTITUTION FOR 127 YEARS

Atkinson, Haserick & Co.

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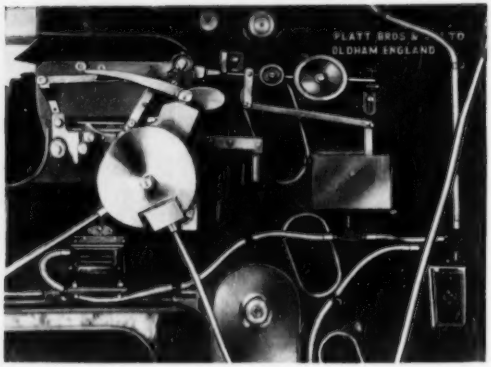
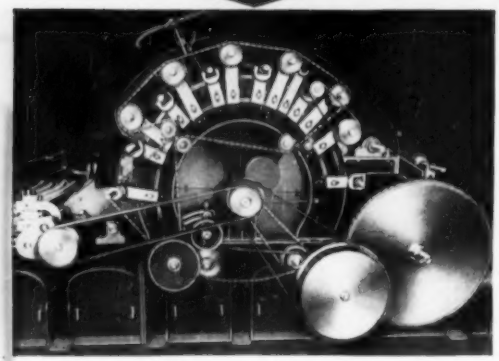
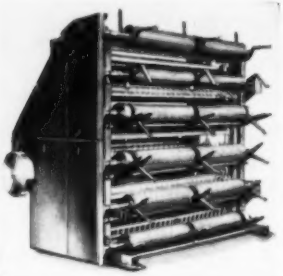
New ADVANTAGES *of Platt woolen cards*



Electrically governed weighing mechanism stops overfeeding because there is no time lag as in old mechanical arrangements. This patented device is another standard equipment advantage of Platt Cards.

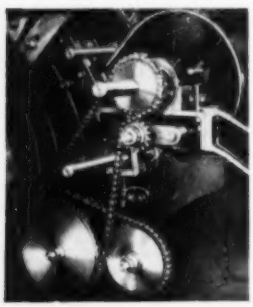


Variable speed drive of workers raises production by producing better roving with less fibre breakage. The Platt-Marsden patent alternative speed drive to workers, which is now fitted as standard on Platt carding engines, enables the speed of workers to be modified to suit any particular material. This arrangement permits a wide speed variation and since the worker drive is quite independent of that to the doffer, the speed of the latter can also be changed without any interference with the speed of the workers. This permits any desired combination of worker and doffer speeds to be used.



New tape condenser with multiple speed drive for rubbing motion has patented motor shaft drive, adjustable from 200 to 600 r.p.m., to vary the amount of rub.

These are only a few of the advantages of Platt Cards, in fact we have a book of 102 pages of them which we will send upon request.



Independent fancy drive permits varying its speed to suit various types of materials being processed. It also eliminates nailing laps of leather to the fancy pulley.

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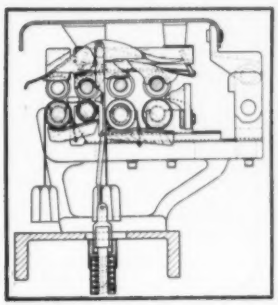
211 CONGRESS STREET, BOSTON 6, MASS. 1639 W. MOREHEAD ST., CHARLOTTE, N. C.

NEW PLATT HIGH DRAFT ROVING FRAME

MS-2

Control of fiber and twist reaches greater perfection in the new Platt MS-2 High Draft Roving Frame. Patented flyers produce a roving of 20% greater strength, thus allowing a reduction in turns per inch and permitting higher front roller speeds. If you are interested in definitely increasing your production, you will want our eleven page booklet on "Roving" with seven mechanical detail illustrations of this new design machine. Write Atkinson, Haserick and Co.



TRIZONA: Graded and controlled drafting with the Trizona (Trade Mark) System will permit a wide range of drafts, using as it does 3 drafting zones with special patented guides for synchronized traverse and unprecedented fiber control.

BETTER TWISTING CONTROL: The new Patented Flyer overcomes breakage from tension in the flyer leg, around the presser, and onto the bobbin, as a greater proportion of the total twist is inserted between the nip of the front rollers and the top of the new flyer. The twist runs right up to the roller nip, giving greater twist regularity, and a more consolidated roving, permitting a greater length to be wound on the bobbin.

NEW FEATURES PERMIT GREATER MACHINE EFFICIENCY—HIGHER ROVING PRODUCTION

NEW ADVANTAGES

1. Production increases up to 15%.
2. Machine efficiency raised 20%.
3. End breakage rate reduced as much as 50%.
4. Waste accumulation decreased by 75%.
5. Unprecedented fiber control.
6. Remarkable roving strength and regularity.
7. Lighter work load.
8. Wide range of drafts.

NEW FEATURES

1. New patented flyer.
2. Patented fiber guides with synchronized traverse.
3. Integral motor drive.
4. Simplified electrical control.
5. Automatic measuring motion.
6. Building motion with gear change (optional).
7. Simplified gearing with easy and accessible changes.
8. Noise reduction.
9. Helical gearing for spindle and bobbin drives.
10. Neat disengaging motion.
11. Flush fitting rear inspection doors.
12. Centralized lubrication system.

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BUSINESS ESTABLISHED 1823
Textile Machinery Agents and Engineers
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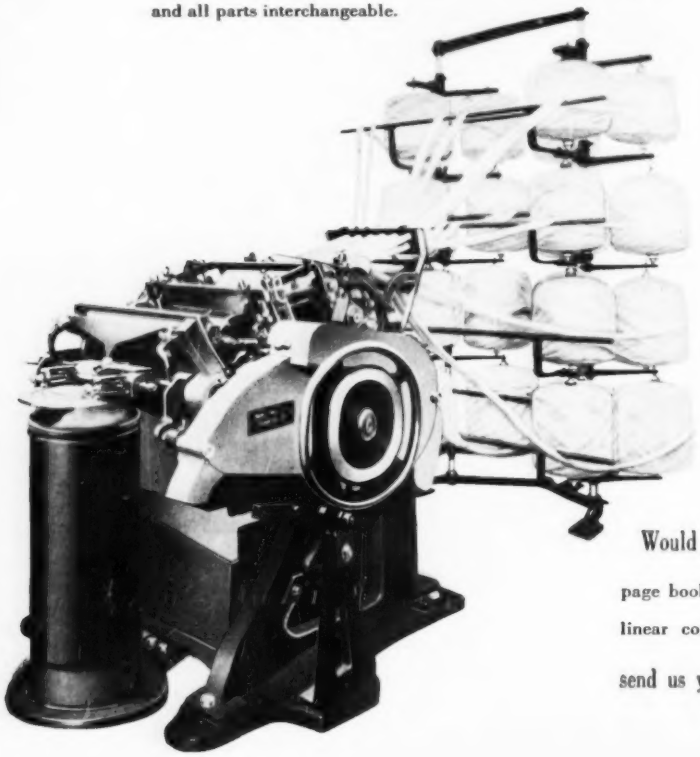
rectilinear or **FRENCH COMB** for

This wide model with a 24 or 32 ball vertical creel can increase output 40% over narrow combs without requiring additional attention. Settings and mechanisms are highly accessible. The construction is extremely rigid and all parts interchangeable.



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Would you like a 16 page booklet on rectilinear combing? Just send us your request.

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INQUIRIES TO *Agents, U. S. A.-French system machinery.* **Blake Electric Mfg. Co., 43 Commercial Wharf, Boston 10, Mass.**

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Agents U.S.A. and Canada—English system machinery

New G-E Flywheel Loom Motor permits higher loom speeds

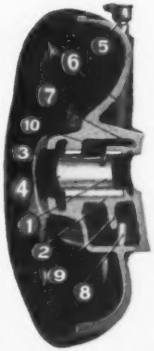
Yes, users of the new General Electric flywheel loom motor have been getting higher loom speeds, and here's why. The added flywheel effect in the motor reduces speed variations of motor and loom during the loom cycle. Because steadier speed is maintained throughout the peaks and valleys of the load, more positive picking and more uniform shuttle flight are assured, making it possible to raise loom speeds.

That's not all! Often you can use a G-E flywheel motor one size smaller than you would need with a conventional loom motor. And you eliminate start marks, cut power costs, get smoother loom operation!

Try out these G-E flywheel loom motors in your own mill and see for yourself! Ask your G-E representative and your loom manufacturer, or write for Bulletin GEA-5011-C. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

New end shield features

make lubrication easier!



One-piece bronze bearing lining (1) is solidly supported by end shield casting (2), eliminating axial movement. Set screw (3) anchors bearing lining to end shield casting. Bearing thrust surface (4) is all bronze.

Easily-accessible oil filler (5) facilitates quick filling through large cast-in oil pipe (6). Oil flows directly to ample reservoir (7), with oil overflow standpipe (8) giving immediate positive indication when full. Baffle (9) prevents yarn packing (10) from plugging standpipe or oil path.

New Loom Starter

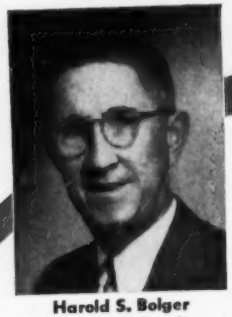
keeps out lint, bars accidental operation!

Tight-fitting cover, plus fire-resistant, mothproofed felt gasket around toggle opening, protect against entrance of lint. Deeply-recessed switch lever prevents false operation or breakage, won't trip from excessive vibration. It's acceptable to the Associated Factory Mutual Fire Insurance Companies—and easy to mount, wire, and maintain.

Over 40 ways to improve quality and cut costs are shown in "Textiles Unlimited" a new G-E More Power to America movie on textile mill modernization. Ask your nearest G-E office to arrange a showing.

GENERAL ELECTRIC

GOOD MEN TO KNOW



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They get around . . . run into all kinds of carding problems . . . know most of the answers or can get them promptly . . . willingly share their knowledge.

They represent a complete line of the very finest card clothing products. They are more interested in making you a long term customer than in making an immediate sale. Ask one of them to survey your cards and get his suggestions for improvements. There is not the slightest cost or obligation.

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The HOUGHTON LINE
Circulation 198,000

The HOUGHTON LINE NEWS

VOL. 18 • NO. 4 OCTOBER, 1950

...the "near editor's" viewpoint

Russians claim invention of Scotch whisky, but switched to manufacturing vodka after the Scots produced an admirable imitation.

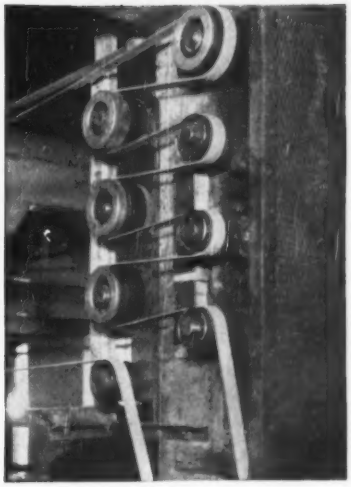
It is certainly worthwhile to get together with your competitors once in a while and discover that some of them have more troubles than you do.

One way to help overcome the postal deficit is to reduce congressional franking privileges. Very seldom is the stuff they send out of any real importance.

A summer resort is where the natives live on your vacation money all winter.

Owen S. Carpenter

CHAIRMAN OF THE BOARD.



Pre-Stretched Loom Belting

Houghton's OKAY Tred Leather Belting, recommended for looms, is given a "break-in" on these pulleys after completion, which removes up to 1% of permanent stretch. That means longer service runs without early take-up.

Better Than We Knew!

We were sure we had an unusual product in *Sulfol 448* for treating woolens and worsteds, but even we were surprised at the rate repeat orders came in after mill trials. Reasons: antistatic properties, quick emulsification, nongumming, non-corrosive, non-oxidizing, easy scouring. We've got a real wool oil in this product; want to try it?

Don't Be Fooled by "Active Content" Figures

The amount of so-called "active ingredient" in a surface active agent does *not* indicate its relative efficiency.

If two surface active agents are of identical chemical nature, and one contains more "active ingredient" than the other, then the first would be a better buy than the second if the prices were equal.

But the chemical nature of such agents varies widely, so they are not often directly comparable. By "active ingredients," of course, we refer to the chemical content as contrasted with water, or inert material, or any vehicle which carries the chemicals that do the actual work.

We have found that a wetting agent having an active ingredient content of 65% was actually less efficient than another chemically different type having only 30% active ingredient. Also we have proved that one wetting agent containing 60% active material was five times faster than another having 65% active content. The same is true of detergents having different chemical bases.

It is necessary to evaluate surface active agents to determine the most efficient point of their operation—not based on active ingredient content alone, but on concentration to be used. To employ too much often gives no better results than using the lowest concentration which has been predetermined to provide rapid speed of wetting.

The real problem is to ascertain the point at which the product performs best, irrespective of "active ingredient" content. This was covered fully in a technical article in the LINE, September 1950 issue. If you do not have a copy, write for it.

Quick Shots

- *For a low-cost-per-pound wetting agent we'll put* Cerfak 453 *up against any of the some 700 now being offered. Write for new folder describing it.*
- *Having trouble with oxidized oil deposits on tentering frames, dryer chains or hydraulic equipment? Try Houghton's* GUM SOLVENT "B".
- *And for sludged-up fuel oil tanks we have a quick remedy —* Houghto-Solv. *Add 1 quart per 1000 gal. of fuel oil.*
- *How about resin finishes — have you tested our* RESONET *line?*

E. F. HOUGHTON & CO.
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.....multi-color textile cartons provide dynamic sales promotion for counter and window display

Sell on Sight!

Sales, profits and prestige of textile products really SOAR when they go to market in GAIRVURE multi-color cartons.

GAIR'S new, scientific GAIRVURE printing on paperboard gives absolute fidelity in color reproductions. Yes, GAIRVURE opens up a NEW field of smart, artistic packaging for TEXTILES.

Through the selling influence of GAIRVURE PACKAGES, dealers everywhere will respond to the opportunity of displaying and promoting the sale of your merchandise.

Always remember...textiles in GAIRVURE cartons, SELL ON SIGHT...and at higher mark-up prices. You'll enjoy NEW profits with the NEW, multi-color GAIRVURE packages.

SEND FOR BROCHURE AND SAMPLES

Upon request we will gladly send descriptive literature and samples of multi-color GAIRVURE. Write today.

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are produced in strategically located Gair Plants. Dependable service is always Gairanteed.

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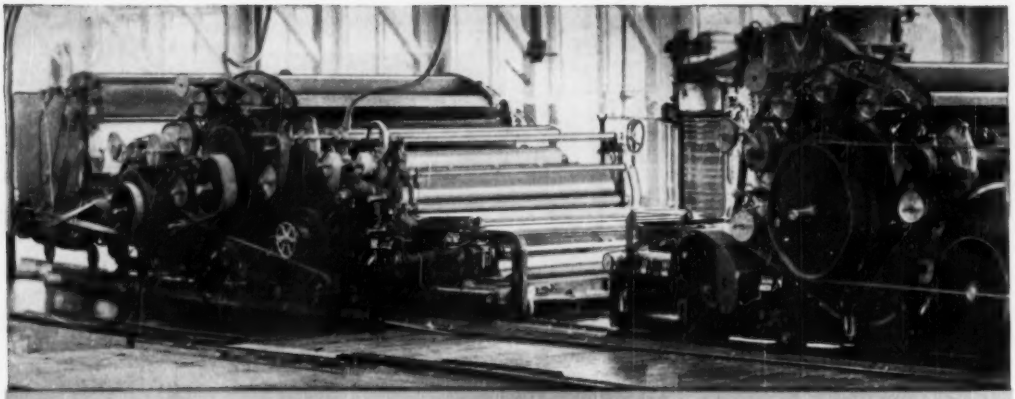

Lincoln's Centralized Lubrication System Helps Maintain Low Maintenance and Operating Costs On the New Duesberg-Bosson Woolen Card

Duesberg-Bosson Cards represent the culmination of many generations of experience both here and abroad in the design and construction of woolen cards. The current production embodies numerous advanced ideas, painstakingly accumulated in this highly specialized field.

One of the advanced ideas is the adoption of Lincoln Centralized Lubrication. This System lubricates over 500 bearings on each Card simultaneously and can be adjusted for short-time intervals of lubrication. The lubricant is injected in each bearing under high pressure while the machine is running, and can be set for each bearing requirement. The System permits lubrication without shutdown and saves hours of hand labor.

Lincoln Centralized Lubrication applies the right lubricant, in the right quantity, at the right time . . . reducing bearing wear and down-time for costly repairs. It does away with haphazard, time-consuming "grease gun" or "oil can" lubrication, reducing maintenance and operating costs.

Lincoln Centralized Lubrication Systems have been installed on a wide variety of textile machinery, both old and new, in leading mills. Actual case histories prove remarkable savings.

Lincoln's lubrication system specialists will work with you and recommend the time and money saving Centralized Lubrication System best suited to your equipment. Write for name of your nearby Lincoln distributor.

LINCOLN ST. LOUIS

Distributed Nationally Through Leading Industrial Wholesalers Located in Principal Cities

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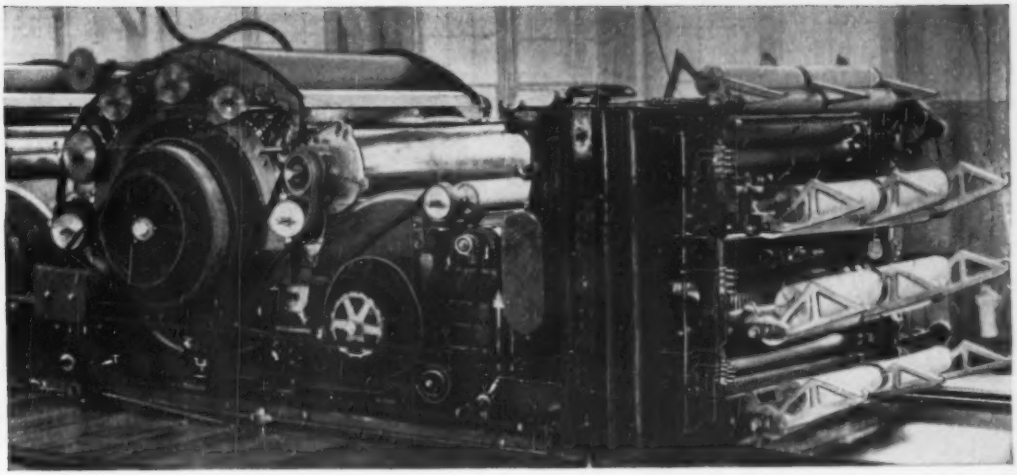
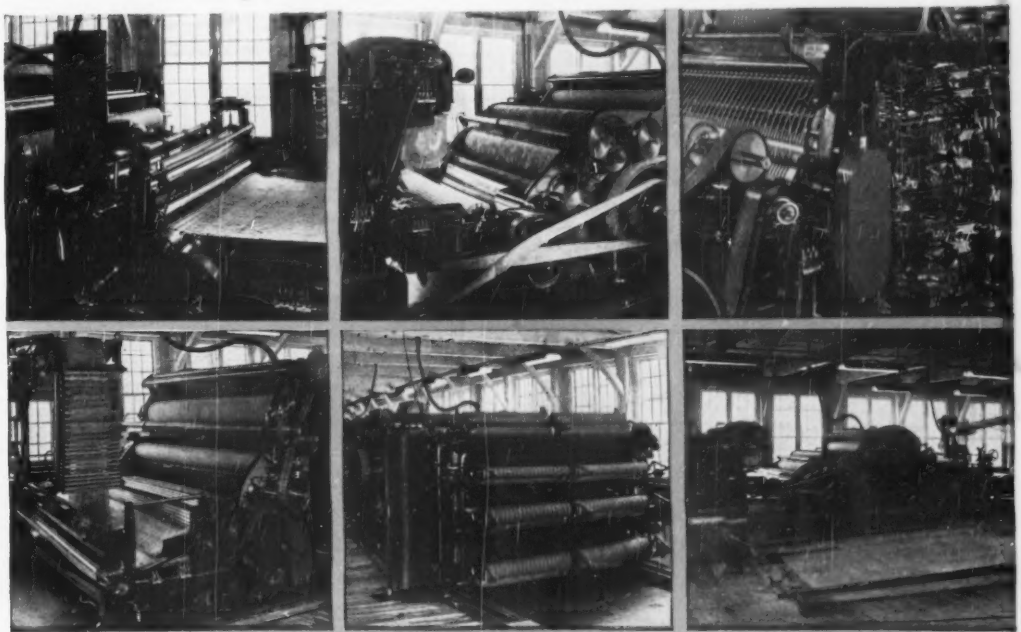
LINCOLN SAINT LOUIS
LUBRICATING EQUIPMENT • • •



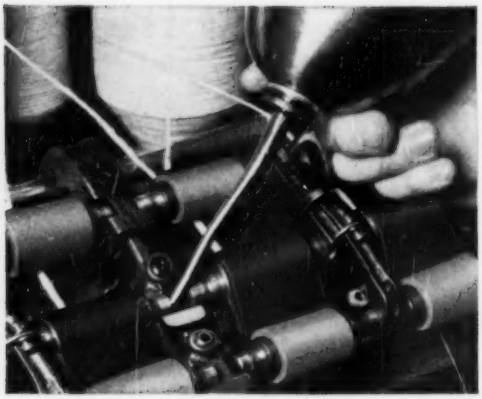
All of the photographs of the Duesberg-Bosson Carding Set reproduced were taken at the Dorr Woolen Co., Guild, New Hampshire, who have been using cost-reducing Lincoln Centralized Lubrication on their Spinning Frames, Cards, Burling Range, and Tenter Dryer.



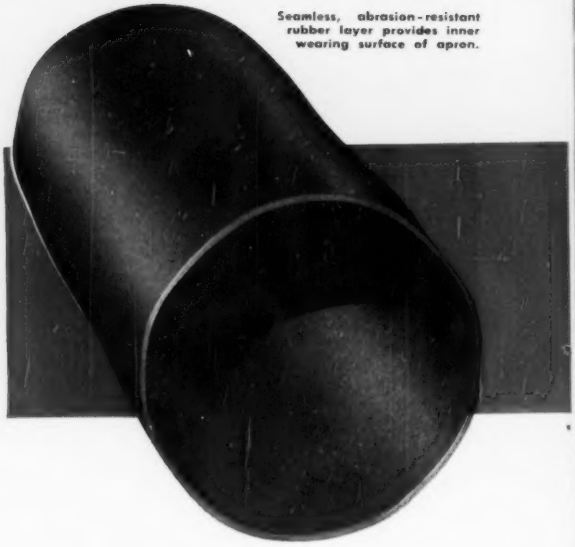
LINCOLN ENGINEERING COMPANY

5742 Natural Bridge Ave., St. Louis 20, Mo.

See these Centralized Systems in operation at BOOTH 492, Greenville, South Carolina



UNAFFECTED BY OIL, TEMPERATURE, OR HUMIDITY. Oils, dyes, and solvents normally used in the textile industry have no effect on Accotex Aprons. They won't sweat.

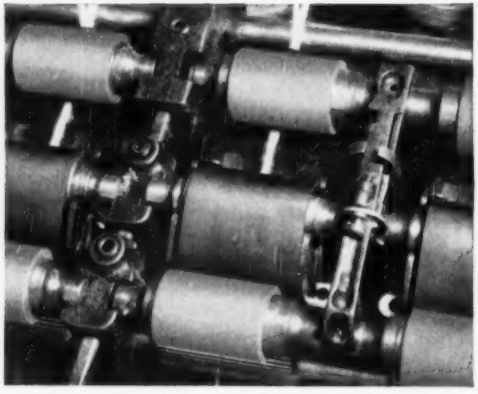


Seamless, abrasion-resistant rubber layer provides inner wearing surface of apron.

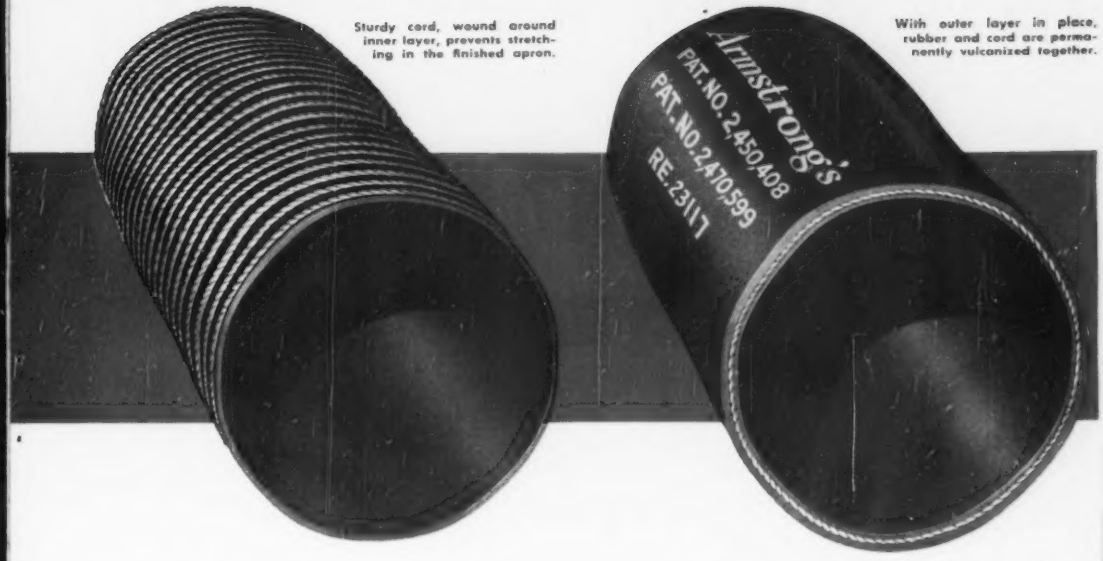
Many mills from

SATIN FINISH. Accotex Aprons are ground to the exact thickness you specify and finished to satin smoothness. Their smooth surface resists grooving and won't roughen.

SUPERIOR FLEX LIFE. Made of a non-oxidizing synthetic, Accotex Aprons always retain their rubbery resilience. Year after year, they run smoothly over the nose bar.



CLEAN RUNNING. Because Accotex Aprons retain their satin smooth finish and do not absorb oil, they don't tend to pick up lint. They are clean running at all times.


Sturdy cord, wound around inner layer, prevents stretching in the finished apron.
With outer layer in place, rubber and cord are permanently vulcanized together.
Armstrong's
PAT. NO. 2,450,408
PAT. NO. 2,470,599
RE. 23,117

get six years' service aprons made like this

Six years of continuous operation is the kind of service that mills all over the country are getting from Armstrong's Accotex® Aprons. The diagrams above show why.

First, there is the inner rubber layer. During six years of normal two-shift operation on 16's, for example, it runs over the nose bar more than ten million times. This constant rubbing is tough on any material. Yet Accotex Aprons stand up because the inner layer is especially compounded for high abrasion resistance.

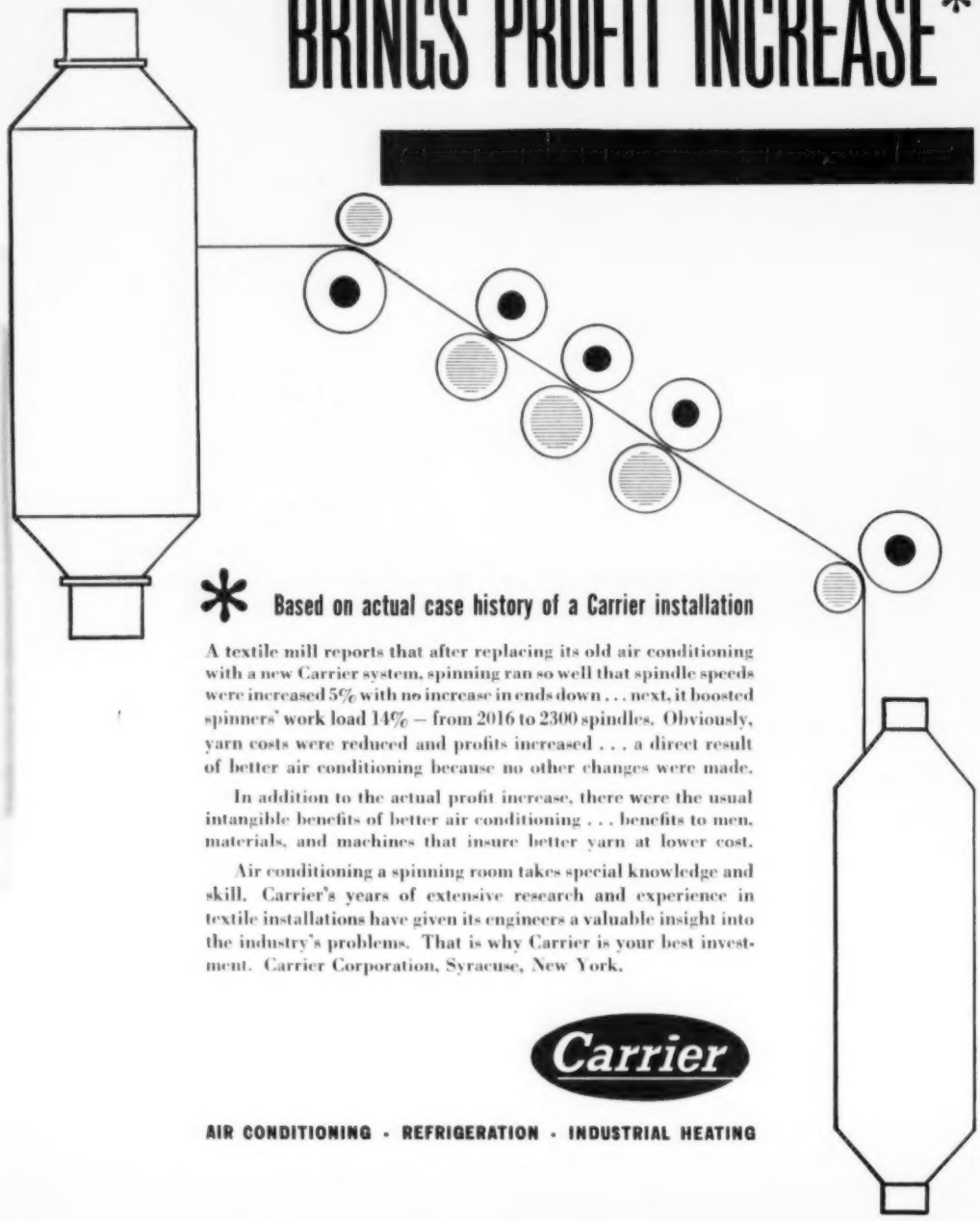
Then, there is the outer surface. It must stay smooth. Otherwise, it loses its drafting efficiency long before the apron is worn out. Consequently, all Accotex Aprons are specially formulated and treated for surface smoothness. This eliminates grooving, prevents cracks and rough spots. It insures clean running work.

Seamless rubber surfaces, however, are not enough. Alone, they would stretch and cause premature failure. To eliminate stretching, a sturdy cord interliner is placed between the rubber layers. Each part—inner rubber layer, outer rubber layer, cord interliner—contributes to the long life of Accotex Aprons. Vulcanized together, they provide all the qualities needed for trouble-free, long-draft spinning.

Your Armstrong representative will gladly arrange for a trial installation of Accotex Aprons. Call him today or write Armstrong Cork Co., Textile Products Dept., 8310 Arch St., Lancaster, Pa. Available for export.

ARMSTRONG'S ACCOTEX APRONS

AIR CONDITIONING IN SPINNING ROOM BRINGS PROFIT INCREASE*



* **Based on actual case history of a Carrier installation**

A textile mill reports that after replacing its old air conditioning with a new Carrier system, spinning ran so well that spindle speeds were increased 5% with no increase in ends down . . . next, it boosted spinners' work load 14% — from 2016 to 2300 spindles. Obviously, yarn costs were reduced and profits increased . . . a direct result of better air conditioning because no other changes were made.

In addition to the actual profit increase, there were the usual intangible benefits of better air conditioning . . . benefits to men, materials, and machines that insure better yarn at lower cost.

Air conditioning a spinning room takes special knowledge and skill. Carrier's years of extensive research and experience in textile installations have given its engineers a valuable insight into the industry's problems. That is why Carrier is your best investment. Carrier Corporation, Syracuse, New York.

Carrier

AIR CONDITIONING · REFRIGERATION · INDUSTRIAL HEATING

for Unusual color effects

on any fabric for any purpose,
let National Technical Service
suggest a low-cost combination of

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ESTABLISHED 1840

Keep them spinning clean and free

with

Gulfspin

an outstanding new oil that reduces friction, wear, and cleaning costs

Gulfspin keeps spindles remarkably clean—much cleaner than ordinary spindle oils. Here's why: Gulfspin is not only highly resistant to the formation of sludge but also has the remarkable ability to prevent sludge from depositing on blades and bolsters. Result: reduced cleaning costs and end breakage.

Gulfspin has excellent load carrying characteristics which insure against excessive wear in cast iron bolsters. This means freedom from spindle wobble and lower maintenance expense.

This quality oil helps reduce starting torque in spindles, and it does not increase in viscosity even after long service. Thus power consumption is kept at much lower levels than are possible with ordinary spindle oils. And it helps protect spindle parts against rust.

Users of Gulfspin report a complete absence of sludge deposits and absolutely no increase in power consumption after months of service. See for yourself on your frames — that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office and ask a Gulf Lubrication Engineer to call.

Gulf Oil Corporation · Gulf Refining Company

GULF BUILDING, PITTSBURGH, PA.

Sales Offices - Warehouses
Located in principal cities and towns throughout Gulf's marketing territory

GULF INDUSTRIAL LUBRICATION

Corrosion resistance is only half the story

Stainless Steel is *extra tough—hard to dent*

it's a *natural* for textile mills

One large mill cut replacement costs **75%** by making these acid-handling buckets out of Stainless Steel. They resist acid *and* rough handling.

WHEN most people think of Stainless Steel, they think about its remarkable corrosion resistance. That's only natural, because Stainless equipment is best known for its ability to repel chemical attack from such materials as acid dope, water vapor, viscose solutions and corrosive dyestuffs.

But don't forget the *physical* properties of Stainless Steel: It's hard. And it's tough. It withstands rough treatment that would absolutely ruin other materials. That's why you see it being used so much for drums, buckets and other containers that must be manhandled constantly.

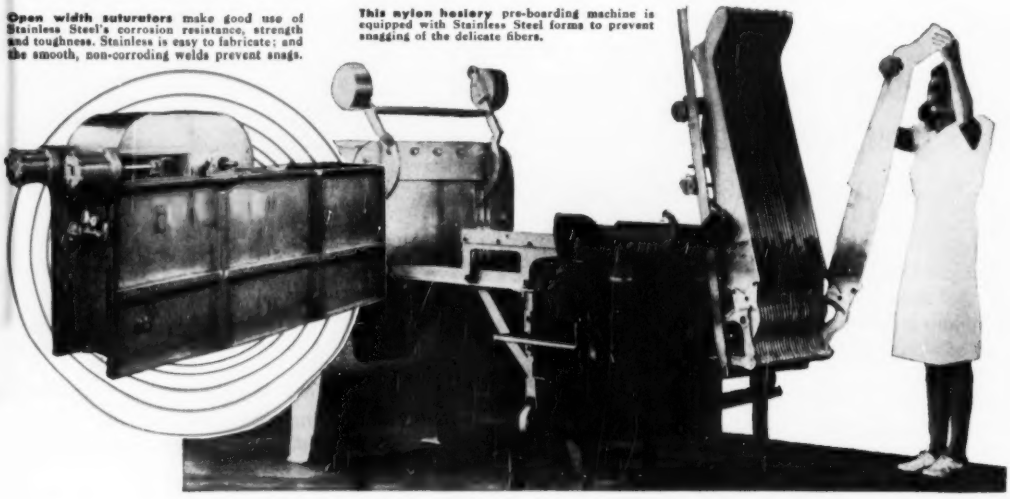
Stainless Steel also has two properties that are vital for parts that must come into contact with moving yarns. Stainless is so smooth that it will not snag even the most delicate filament rayons. And the great wear resistance of Stainless means it can withstand the cutting action of yarn better than almost any other metal.

When you think about these factors—the wear resistance, toughness, smooth surface finish and the great ability to withstand corrosion—it's easy to understand why Stainless Steel is preferred for every phase of the textile industry, whether fiber manufacturing, spinning and weaving or dyeing and finishing.

Your fabricator probably uses U·S·S Stainless Steel now, it's so perfect in finish, so uniform in composition. On your next equipment order, specify "U·S·S Stainless preferred." That way, you'll be sure of Stainless at its very best.

Open width saturators make good use of Stainless Steel's corrosion resistance, strength and toughness. Stainless is easy to fabricate; and the smooth, non-corroding welds prevent snags.

This nylon hosiery pre-boarding machine is equipped with Stainless Steel forms to prevent snagging of the delicate fibers.



AMERICAN STEEL & WIRE COMPANY, CLEVELAND · CARNEGIE-ILLINOIS STEEL CORPORATION, PITTSBURGH

COLUMBIA STEEL COMPANY, SAN FRANCISCO · NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM

UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

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SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

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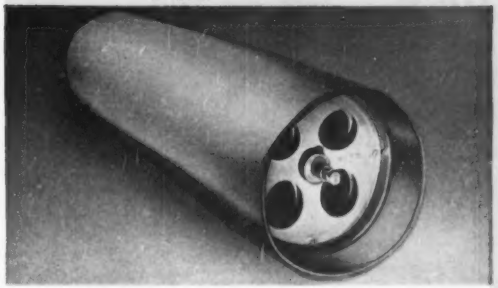
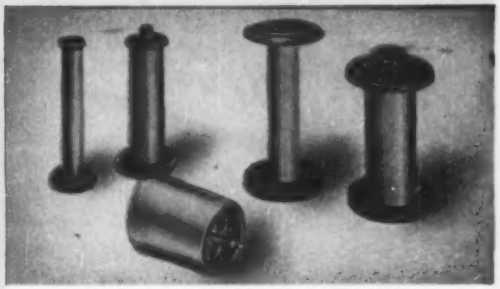
UNITED STATES STEEL

SYNTHANE—the Material to Speed Textile Processes



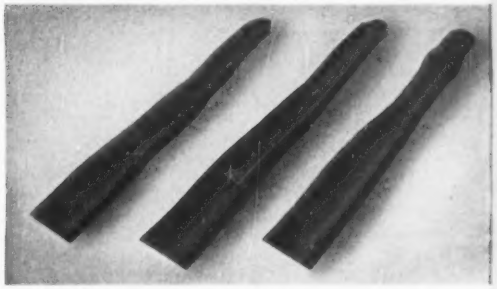
SYNTHANE TEXTILE ROLLERS

Furnisher rolls, warp beam rolls and measuring rolls made from Synthane do not absorb moisture or dyes, hence are quickly and easily cleaned. They are light in weight, easy to handle, unaffected by oils or dye chemicals, and they resist wear. We can supply rollers accurately dimensioned to your needs, without metal cores where light weight is important, or Synthane may be laminated over cores for more strength.



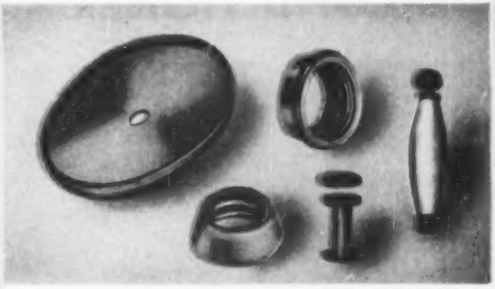
BOBBINS AND PIRNS

Synthane has many advantages as a material for bobbins and pirns. Synthane bobbins and pirns are hard, dense, smooth, dimensionally stable, moisture resistant, non-staining, light in weight, and they come machined to precise dimensions for perfect balance. They help attain increased spindle speeds, improved quality of finished yarns and lowered maintenance costs.



SYNTHANE TURNING AND EXAMINING FORMS

Synthane is smooth and stays smooth, will not snag or pull the finest denier yarns. Synthane forms are solid black throughout; the color cannot wear off. The dull finish is easy on inspectors' eyes, quickly shows up even the smallest defect. Synthane Turning and Inspection Form shown in center is latest, and one of most popular, forms. Note deep groove in which stocking rides during turning operation to prevent contact with the heavy welt yarns in the stocking top. Eliminates picks or pulls. Permits turning of the stocking before inspection instead of after. Also available with oval-shaped hole at toe end to facilitate turning.



NON-SNAGGING REDRAW CAPS

Synthane redraw caps are available in all types and dimensions. They are smooth, have no sharp corners, can't snag.

Bobbin type are low in cost, prevent damage to yarn, rehabilitate damaged bobbin heads. We will send you undimensioned drawings which you can mark to suit your needs. Write for them.

Pirn type permit drawing from wooden or paper pirns from any position without snagging. They may be used on bottom of pirn to prevent snagging from splinters on worn T-slots. Made in two sizes to fit a wide range of pirn types and sizes. Snap ring locks cap firmly in position.

SYNTHANE ALSO MANUFACTURES

caps for sizing bobbins
rayon cake holders
traverse slides
redraw chucks
hosiery sizing forms
drier pole rests
balloon separators
redraw tubes
finger inserts
hosiery mending cups
bobbin bushings
verge plates
macerated gears and gear blanks
spindle bushings
spindle adapter tubes
redraw caps for nylon shipping pirns
hosiery carrying boards
hosiery examining forms

Textile Division
SYNTHANE CORPORATION
SYNTHANE
OAKS, PENNSYLVANIA

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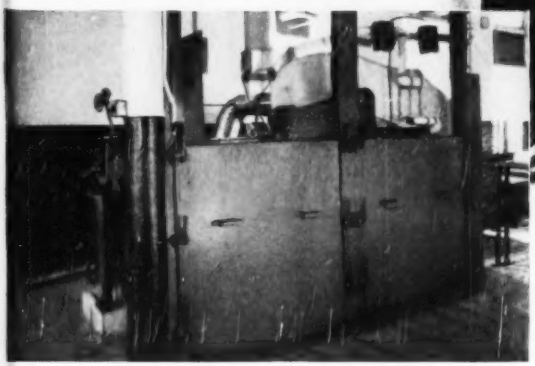
A Recorder Chart Speaks

for

The Fleet Line YARN STEAMER & CONDITIONER



"I am a typical chart taken from the recording instrument on a Fleet Line Yarn Steamer and Conditioner in a well-known New England woolen mill. The graph line on my front shows how steam is fed automatically into the machines. Note that the peaks of this line form practically a perfect circle. That means that temperature and humidity conditions are UNIFORM in the machine at all times and this naturally results in uniform condition of the yarn, from bobbin to bobbin and batch to batch."

Uniformity of product is only one of many advantages that The Fleet Line Yarn Steamer offers. Other advantages are as follows:

1. **May be used for steaming only or steaming and conditioning.**
2. **100% increase in production.**
3. **Temperature, humidity and length of treatment automatically controlled.**
4. **Firm twist setting, due to quick, thorough penetration.**

Catalog page on request.

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

The Fleet Line — A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

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Knitting or Weaving,

production's no problem

when you use STANDARD Durene Reg. U.S. Pat. Off.

quality-controlled mercerized combed cotton yarn

For better looking, longer wearing, faster selling
knit and woven goods, always specify smooth,
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natural, bleached and dyed

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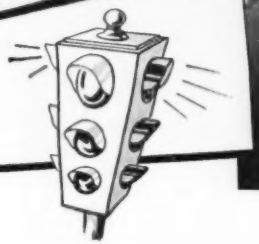


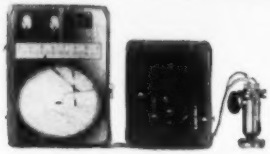
Bristol's pH Controller-Recorder puts plant waste neutralization on continuous, accurate, economical basis

If you are now neutralizing plant wastes manually —or are considering the installation of a neutralization system, a Bristol pH Controller-Recorder can standardize your results . . . prevent corrosion losses . . . utilize chemicals with maximum economy and safeguard stream and river purity.

A typical installation involves:

- a Bristol pH Controller-Recorder which continuously measures the pH of plant wastes and controls the flow of reagents to the mixing chamber to achieve a neutral value —
- and a Bristol Recording Flow-Meter which measures the volume of material to be treated, records the variations in the rate of flow and totalizes flow for record and cost-figuring purposes.

These Bristol Instruments are carried in stock for immediate delivery. Write for further information. THE BRISTOL COMPANY, 103 Bristol Road, Waterbury 91, Connecticut.



Bristol Continuous pH Controller-Recorder

TYPICAL UNIT CHEMICAL-PROCESS APPLICATIONS FOR BRISTOL pH INSTRUMENTS

Neutralization . . . to show when reagents have carried reaction to desired pH value.

Coagulation . . . to indicate when optimum pH value is attained.

Precipitation . . . to insure complete precipitation and proper physical properties of precipitate.

Fermentation . . . to insure that material remains within the critical pH range for maximum action.

Electro-deposition . . . proper pH determines efficiency of base metal plating.

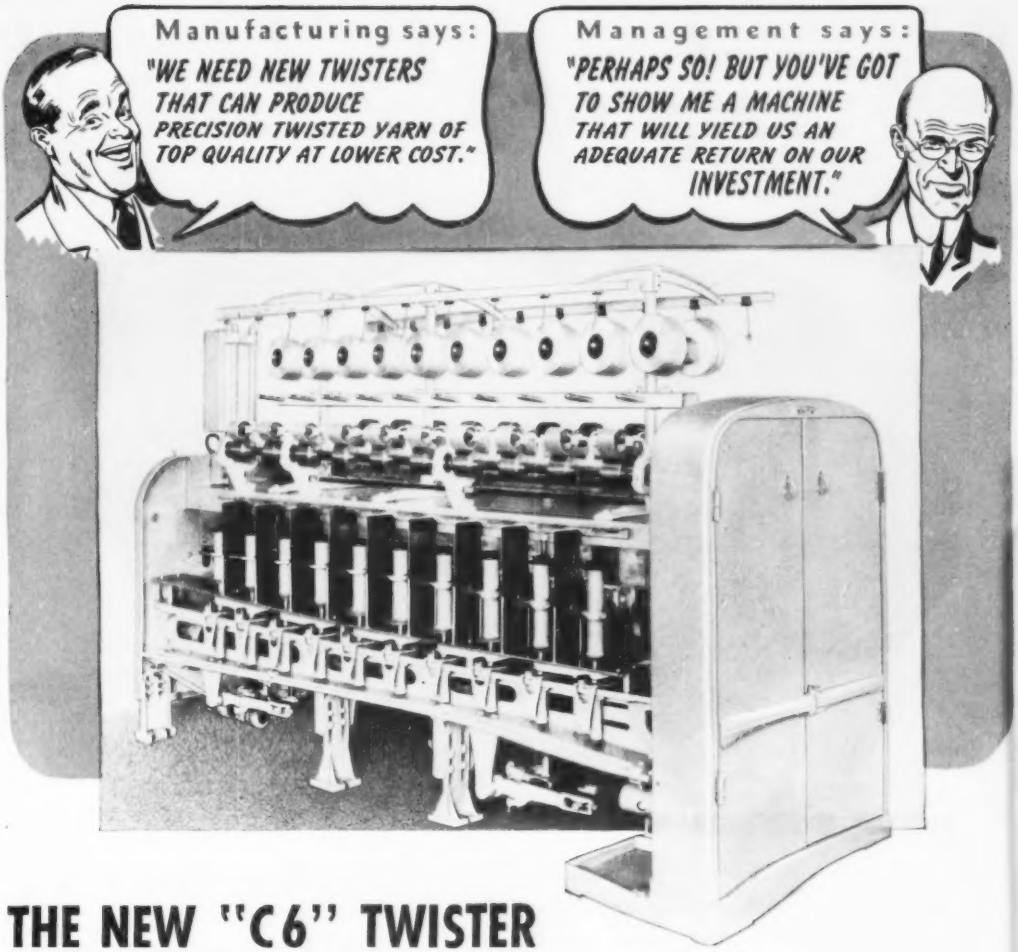
Other Applications . . . crystallization . . . absorption . . . filtering . . . bleaching . . . settling. *Write for facts.*

Bristol makes a complete line of instruments for controlling sewage and industrial waste disposal processes, including recording thermometers, liquid level instruments, flowmeters, pH instruments, recording gauges, pyrometers, telemetering instruments, and automatic controllers.

BRISTOL

Engineers process control for better products and profits

AUTOMATIC CONTROLLING AND RECORDING INSTRUMENTS


Manufacturing says:
"WE NEED NEW TWISTERS THAT CAN PRODUCE PRECISION TWISTED YARN OF TOP QUALITY AT LOWER COST."
Management says:
"PERHAPS SO! BUT YOU'VE GOT TO SHOW ME A MACHINE THAT WILL YIELD US AN ADEQUATE RETURN ON OUR INVESTMENT."

THE NEW "C6" TWISTER
will satisfy BOTH requirements!

From both the production and financial viewpoints the new Whitin Model "C6" Twister is a sound investment for your mill. Performance tested by the yearly production of millions of pounds of synthetic yarn, it is designed to produce packages up to 4 lbs. with a wide selection of winds produced by Whitin patented builders. Simplicity of operation, plus ease in creeling of supply packages makes this machine popular with operators and management alike.

Write today for illustrated folder giving complete information about the model "C6" Twister and describing its many special features.

Whitin MACHINE WORKS

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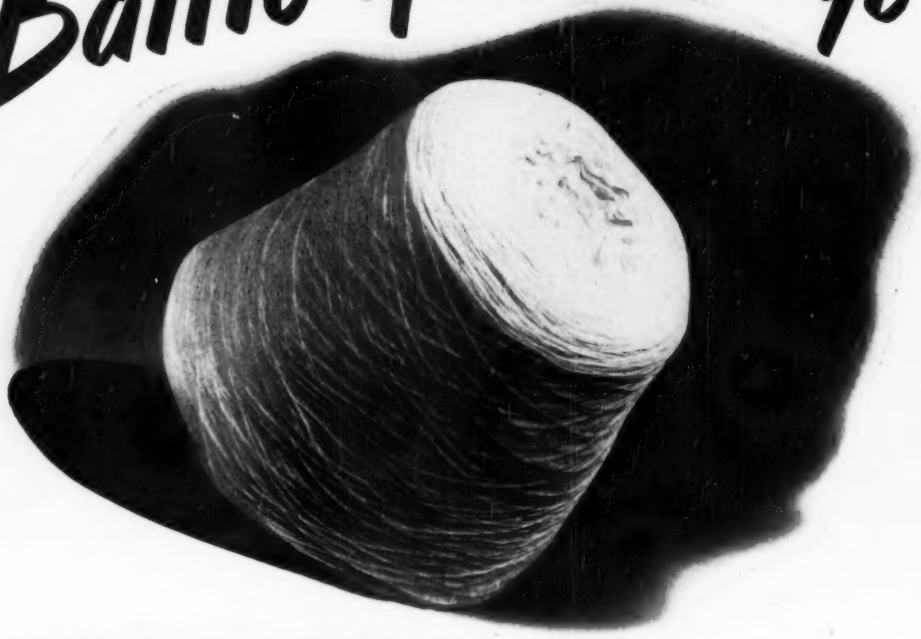
"Battle of the Bulge"



HOW FOSTER WON IT

Every spinner and knitter is a veteran of the "Battle of the Bulge." He knows that cones which bulge at the nose are enemies of good knitting.

One of the frequent causes of bulging is too low an angle of wind for certain types or counts of yarn, and Foster long ago won the "battle" by making it possible to vary the angle of wind on the Model 102. By changing four small gears in the head end of the machine nine different angles of wind from 9° to 18° are obtainable.

We will be glad to recommend the proper angle of wind (and to supply gears to obtain it) for any given type and count of yarn.

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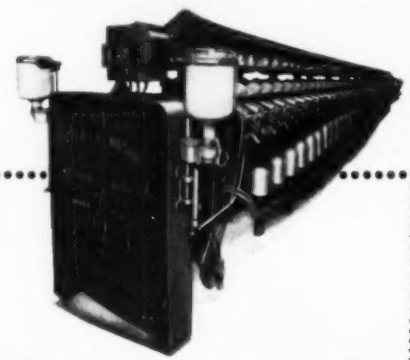
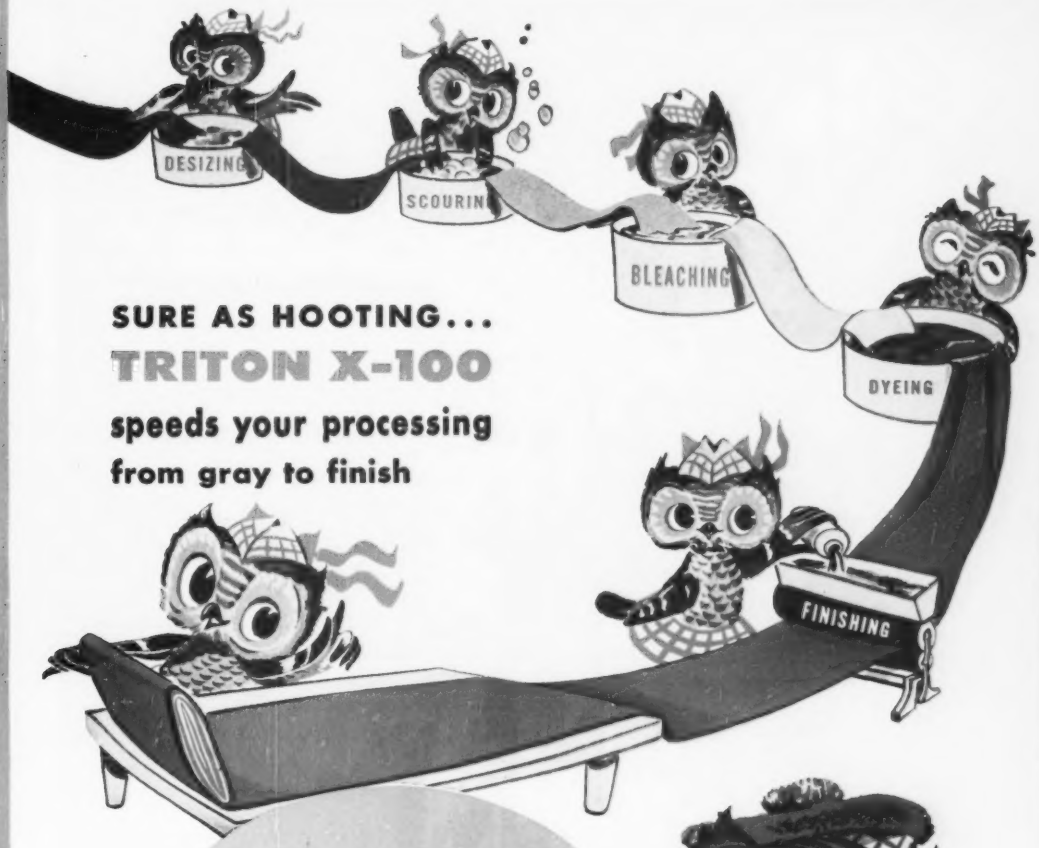


FOSTER MODEL 102

The Flexible Winder

COTTON, MERCERIZED, WOOL, WORSTED MERINO, SPUN SILK OR SPUN RAYON YARNS



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TRITON X-100

speeds your processing from gray to finish

Makes water wetter —so it penetrates better

TRITON X-100 is a concentrated 100% active penetrant and detergent, non-ionic, and alkali-and-acid stable. As a scouring agent for wool, cotton and synthetic fibres, it is a fast wetter, an excellent detergent and an outstanding emulsifier for oil and grease. And in dyeing and finishing too, it speeds processing and cuts costs. Be wise and thrifty. Send for full details of TRITON X-100 today.

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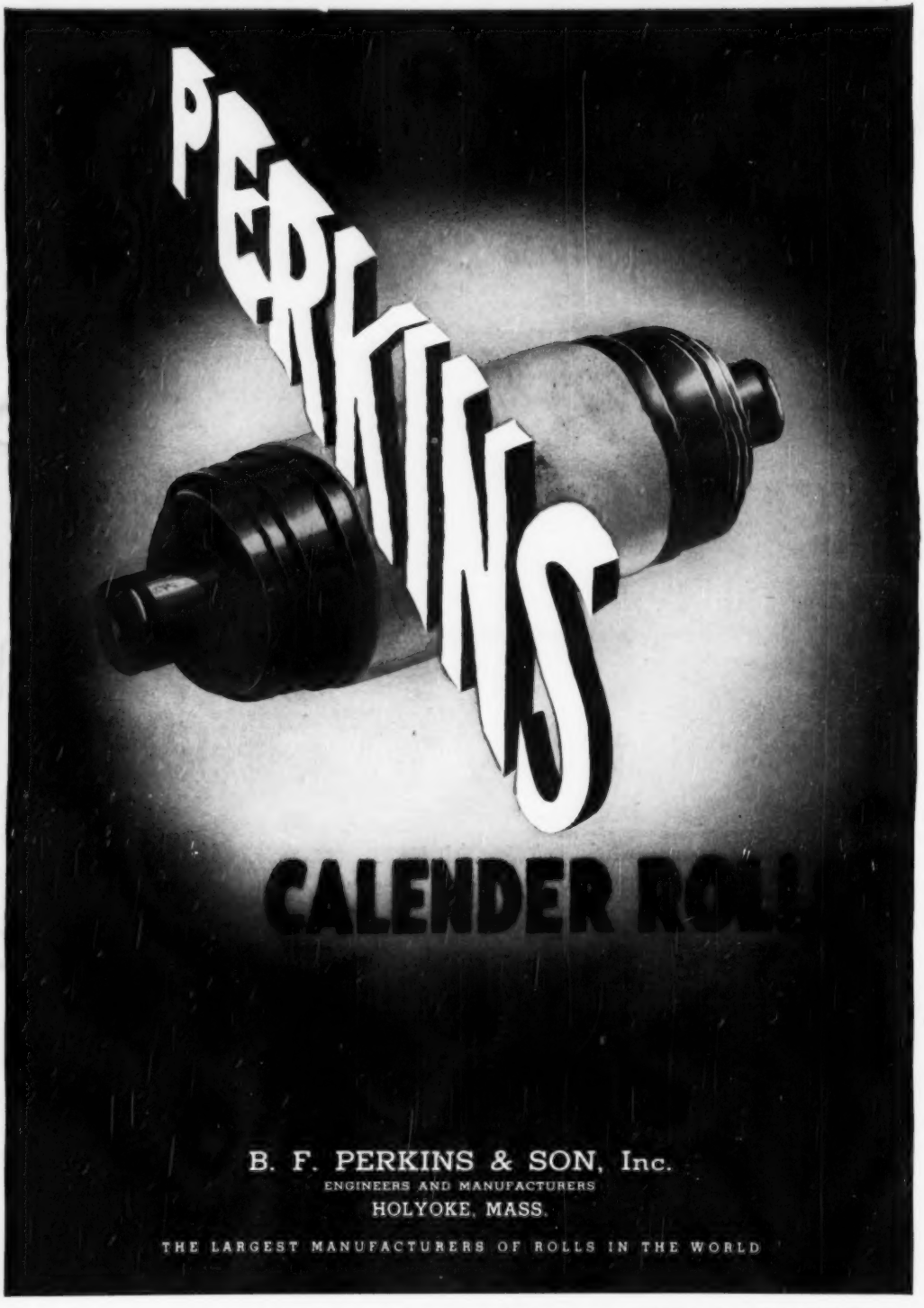
TRITON is a *trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.*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the right analysis is important

The right analysis is what counts in the selection of stainless steel for a particular job. Since stainless is a whole family of steels in a variety of grades and finishes, its use must be carefully planned. Crucible, pioneer in the development of these specialty steels, makes freely available to you the services of an alert metallurgical staff. These engineers and metallurgists are experienced in the application of stainless steels to countless requirements . . . and they can show you the stainless analysis best suited for your needs.

Crucible tackles every Industry-posed problem with the same careful attention to detail that is the measure of Crucible's half century of specialty steel leadership. Your application can benefit from this experience, and we are well prepared to help you. So, when you think of stainless . . . call Crucible. One word from you puts us to work for you.

CRUCIBLE STEEL COMPANY OF AMERICA, Chrysler Building, New York 17, N. Y.

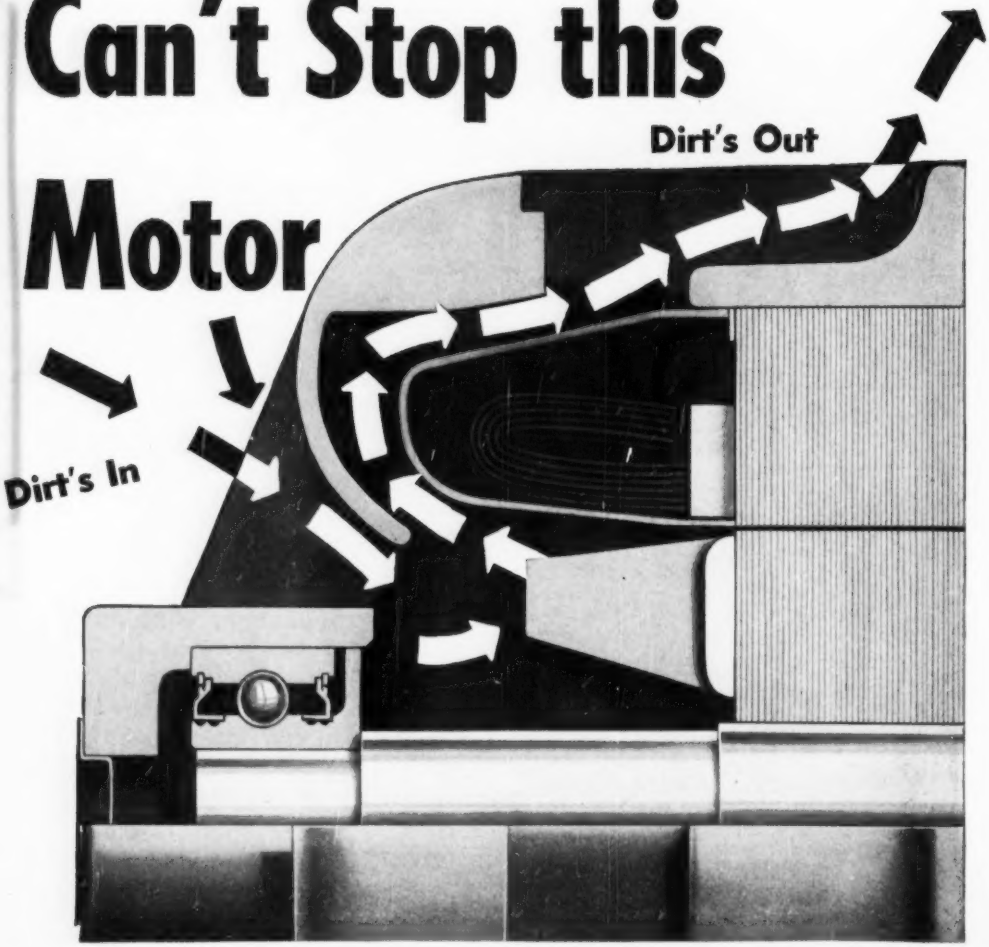
CRUCIBLE first name in special purpose steels

STAINLESS STEELS

fifty years of Fine steelmaking

STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

Here's Why *Dirt and Lint* Can't Stop this Motor



For more information, write direct or use Reader Service post card.

Quick-Clean TEXTILE MOTOR

WIDE OPEN DESIGN AND POWERFUL FANS SWEEP LINT AND DIRT RIGHT OUT OF *Quick-Clean* MOTOR!

YOU HAVE NO MOTOR PROBLEM from lint-laden atmospheres when you use *Quick-Clean* textile motors. *Quick-Clean* motors have wide open passages for cooling air and powerful fans to sweep lint and dirt right out of the motor. Inside surfaces are smooth and hard so lint cannot lodge anywhere. Air passages are shaped for smooth air flow.

Quick-Clean motors also save you money with sealed bearings which eliminate usual expensive bearing maintenance procedures. Grease or oil cannot leak from the bearings to soil materials or gather lint and dirt. Lint and dirt cannot enter the bearing. Ask your nearest Allis-Chalmers Sales Office about the *Quick-Clean* textile motor Or write for the bulletin shown below which describes it completely.

MATCH QUICK-CLEAN MOTORS WITH A-C STARTERS!

This control was developed for dependable, safe starting of *Quick-Clean* motors. Other Allis-Chalmers motor control will give you dependable operation of all electrical equipment in your plant. Competent application engineers are always available through your nearby Allis-Chalmers Sales Office. A-3140

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Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

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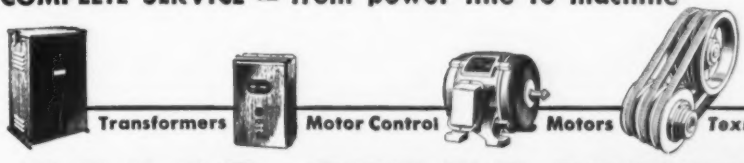
COMPLETE SERVICE — from power line to machine



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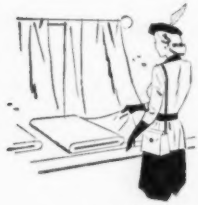
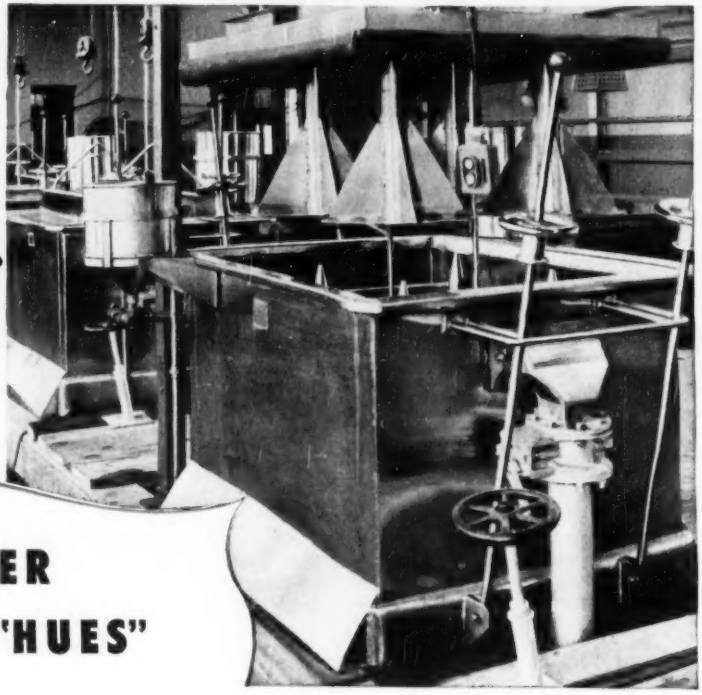
Originator of the Multiple V-Belt Drive for the Textile Industry

Enduro® STAINLESS STEEL



THRIFTY METAL OF 10,000 USES

This 300-pound-capacity top dyeing machine is made entirely of type 316 stainless steel to give it good corrosion-resistance and to reduce radiation losses. Smaller vessels at sides, perforated spindles, stripping platforms and baffles—all are made of this same corrosion-resistant stainless steel.



...KEEPER OF THE "HUES"

Colors come right and bright from dyeing equipment made of Republic ENDURO Stainless Steel!

ENDURO is non-contaminating. It does not react with dye bath acids and salts. It never "saddens" colors, nor alters shades.

It stubbornly resists rust and corrosion, ending the danger of smeared colors due to metallic oxides.

Its smooth-as-glass, pore-free surface does not absorb dyestuffs. It can be cleaned easily and completely with just a water rinse, making lightning-fast changes from dark to light colors a reality—still without danger of color contamination.

Moreover, this unexcelled "keeper of the hues" keeps its value throughout long years of service. Solid stainless steel all the way through, it never needs plating or refinishing. It resists denting, abrasion and the wear of daily use.

Your equipment supplier will be happy to give you more information, or write us for your free copy of booklet 444—the story of "true dyed colors and pure bleached whites with Republic ENDURO Stainless Steel."

✓ **CHECK ALL 10 ADVANTAGES:** Rust- and Corrosion-Resistance • Heat-Resistance • High Strength • No Metallic Contamination • Sanitary Surfaces • Easy to Clean • Eye Appeal • Easy to Fabricate • Long Life • Low End Cost • *What more can be desired in a material?*

REPUBLIC STEEL

For Complete Details Write

REPUBLIC STEEL CORPORATION

Alloy Steel Division, Massillon, Ohio • GENERAL OFFICES, CLEVELAND 1, OHIO • *Export Dept.: Chrysler Bldg., New York 17, N.Y.*

get efficiency in scouring after continuous dyeing with

SANTOMERSE No. 1

The high detergency of Monsanto Santomerse No. 1 is your assurance of *thorough* scouring at the high speed of continuous dyeing. Santomerse No. 1 rinses out completely and quickly, leaving colors clear and bright and leaving cloth with a soft feel that appeals to buyers. Along with its efficiency, Santomerse No. 1 is *economical*. Only 1 to 3 pounds of the detergent are required per hundred gallons of water. In addition to scouring, Santomerse No. 1 may be employed in the oxidizing unit, where it brings about rapid wetting action.

Versatile Santomerse No. 1 is efficient in hard or soft water . . . in hot or cold solutions . . . in acid, neutral or alkaline baths. It guards the quality of textiles by preventing the formation of insoluble soap curds.

If you would like more information on the use of Santomerse No. 1 in connection with your continuous dyeing . . . or about the use of Santomerse No. 1 as a penetrant, dispersant or detergent in other textile operations . . . mail the coupon or contact the nearest Monsanto Sales Office. MONSANTO CHEMICAL COMPANY, Phosphate Division, 1780-J South Second Street, St. Louis 4, Missouri.

Santomerse: Reg. U. S. Pat. Off.

FREE CALCULATOR

If you are a textile dyer or chemist, your request will bring you a Monsanto Santolator *free* . . . until our supply is exhausted. The Santolator is a handy instrument that tells at a glance how much detergent or wetting agent to use in 33 operations. It figures percentages on 10, 50 and 100 pounds of goods at the spin of a dial. For your free Santolator, mail the coupon.

DISTRICT SALES OFFICES:
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MONSANTO CHEMICAL COMPANY
Phosphate Division
1780-J South Second Street, St. Louis 4, Missouri

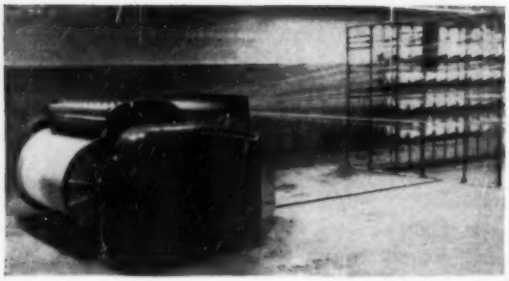
Please send information on the use of Santomerse No. 1 in continuous dyeing.

Name..... *Title*.....
Company.....
Street.....
City..... *Zone*... *State*.....

SERVING INDUSTRY...WHICH SERVES MANKIND

For more information, write direct or use Reader Service post card.

Especially Designed For Large Section Beams



Model SD-49

The New Cocker Spindle Driven Warper

This is the model which was displayed at the Atlantic City Exhibition. It will handle large section beams with 36" diameter heads 54½" between heads or wider, as well as beams with smaller diameter heads. Can be run with either horizontal or vertical creels. Weights approximately 9000 pounds. Heavy construction permits high speeds with minimum of vibration.

Warner Electric Magnetic Brakes: provide synchronized control over main drive shaft, presser roll, and cross over roll brakes.

Large Diameter Press Roll: adjustable pressure provided by heavy air cylinder.

Beam Driven and Braked from both Ends: eliminates undue strain on the beam.

Driving Heads: equipped with self-centering chucks, and driving dogs—both controlled by a single operation.

Beam Loading and Unloading: easily and quickly done by air cylinder which operates the pressure roll.

Standard Equipment on all Machines

Static Eliminating Bar & Tape-off Bar

Electric Pre-determining Counter Clock

Electric Speed Indicator

Collecting Eyeboard on back of Machine

Positive Zig Zag Expansion on Front

Push Buttons controlled with Stations on both sides of Machine: convenient to operator—each station with Stop-Start and Jog buttons.

Speed up to 1000 yards per minute

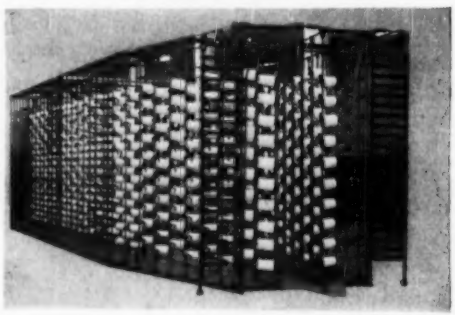
Over-all dimensions 9'2" by 7'4" by 51½" high.

Vertical Type Cone Creel With Electrical Eyeboard Stop Motion

A portion of this patented creel is shown with the Warper above. Can be built three, four, five, or six packages high to suit building. This creel has many exclusive features which improve tying in of reserve cones, improve tension control, and provide positive braking action. Write for Folder SD-49 for full details on the equipment shown here.

Horizontal Type Cone Creel

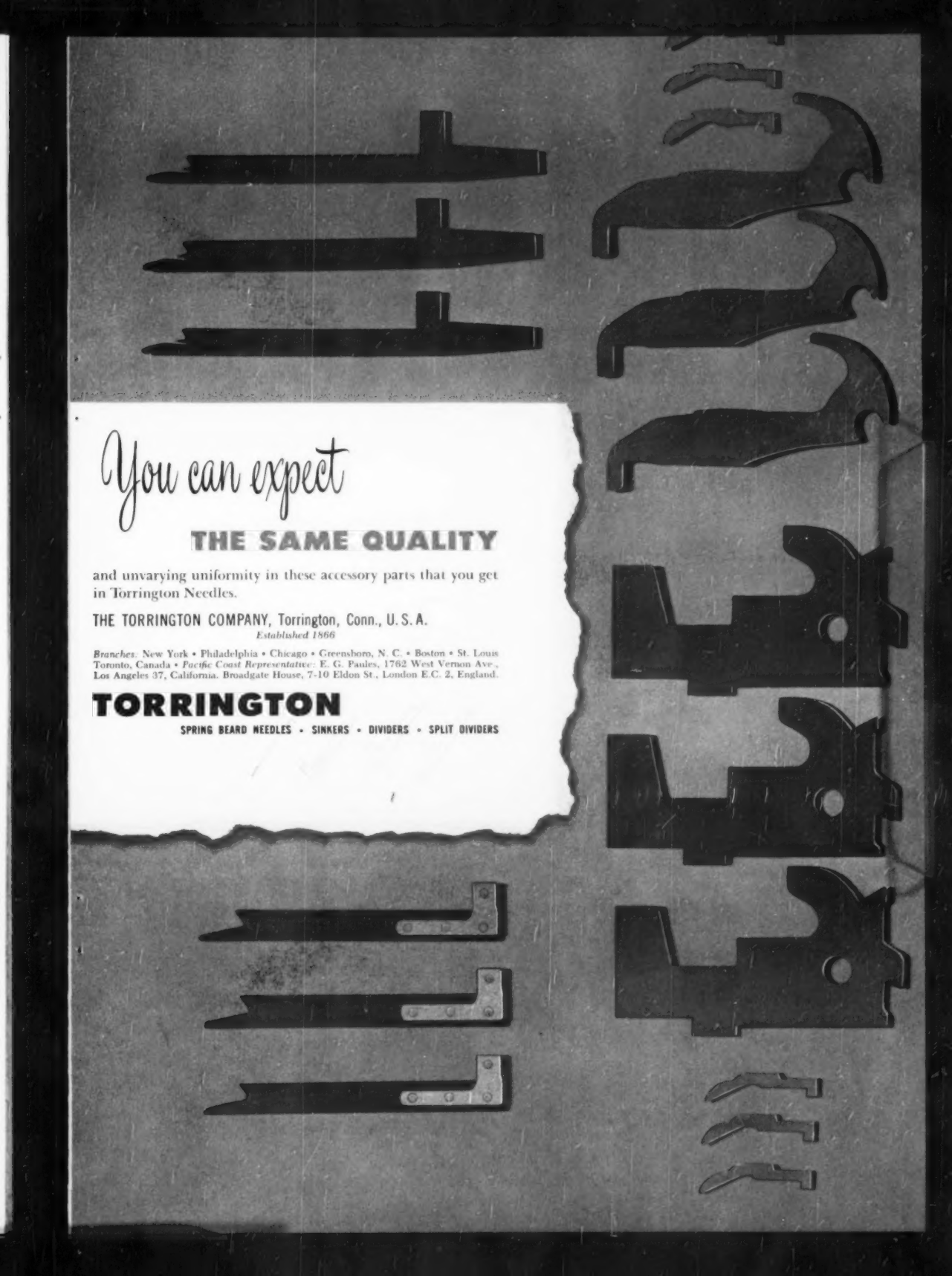
With Electrical Eyeboard Stop Motion. Cone holders are arranged so that they swing around inside the "V" for re-creeling without interfering with the operation of the machine. Creel is equipped with either scissor type cone holder or our new spring adaptor for taking different sizes and tapers of cones. A tension for every requirement available.



THE LEADER COCKER AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT



You can expect

THE SAME QUALITY

and unvarying uniformity in these accessory parts that you get in Torrington Needles.

THE TORRINGTON COMPANY, Torrington, Conn., U. S. A.
Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. • Boston • St. Louis
Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California. Broadgate House, 7-10 Eldon St., London E.C. 2, England.

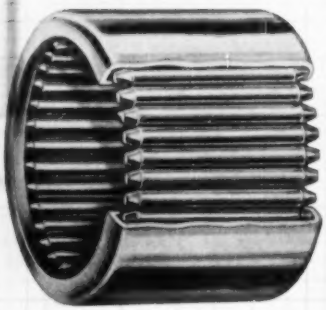
TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

known by the company they keep

This is one maxim that certainly applies in the case of Torrington Needle Bearings. The list of Needle Bearing users reads like a "Who's Who in American Industry." There's no better proof of the soundness of engineering embodied in Needle Bearings than their excellent performance in thousands of famous-name products.

In your automobile, lawnmower, outboard motor, sewing machine, hand drill . . . and in farm equipment, textile machines, machine tools, aircraft—Needle Bearings help ease your work and keep our economy going. Why not add your product to the growing list of those that benefit from Needle Bearing operation?



THE TORRINGTON COMPANY

Torrington, Conn. • South Bend 21, Ind.

District Offices and Distributors in Principal Cities of United States and Canada

TORRINGTON *NEEDLE* BEARINGS

NEEDLE • SPHERICAL ROLLER • TAPERED ROLLER • STRAIGHT ROLLER • BALL • NEEDLE ROLLERS

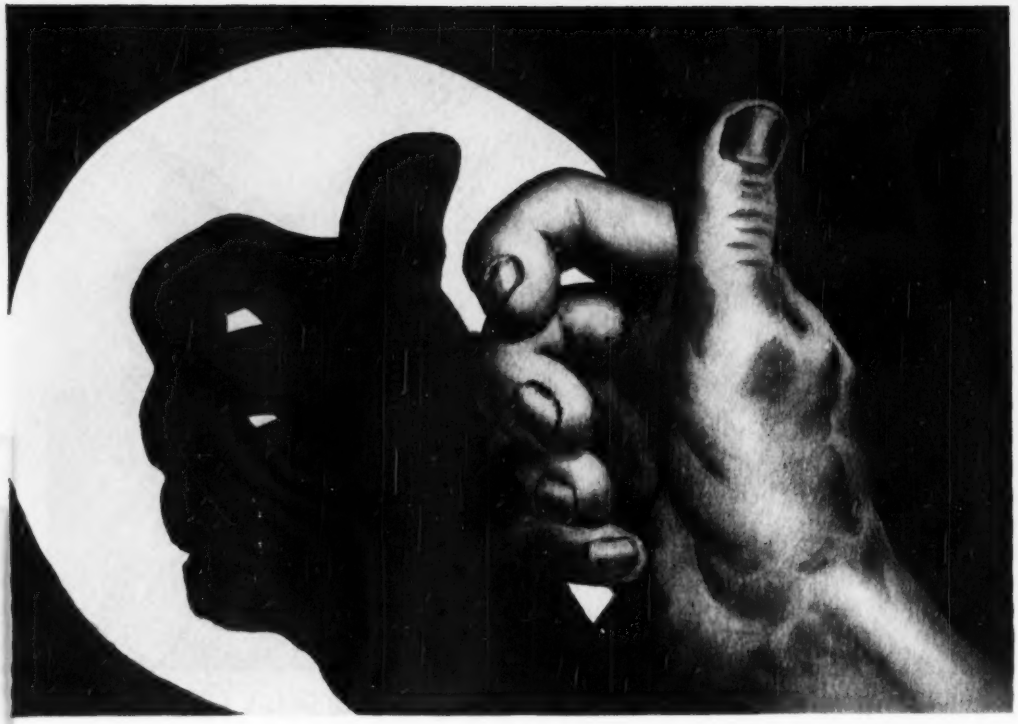
in industry after industry the trend is to...

PITTSBURGH CARGOTAINERS

One reason for the trend is that textile manufacturers are finding that their materials and supplies move more swiftly and inexpensively in collapsible welded-wire baskets with eight-way pallet bases. From card to warp to weave to finishing and back again to the original intraplant supply point, these collapsible baskets remain on the production line to speed operations. And these progressive manufacturers have specifically named *CARGOTAINERS* because they are the foremost and basic-patented product of this type. Many other manufacturers have come to appreciate the value of handling, sorting, and storing materials in *CARGOTAINERS* . . . then easily collapsing the *CARGOTAINERS* and sending them back to the supply point to maintain a perfect production cycle. *If you want to see how Pittsburgh CARGOTAINERS can simplify your own handling problem and save you money, write without obligation to Pittsburgh Steel Products Company, Department TW, Grant Building, Pittsburgh 30, Pa.*

CARGOTAINERS by Pittsburgh Steel Products Co.

A Subsidiary of Pittsburgh Steel Company



ARE YOU DE-SIZING BY "RULE OF THUMB"?

A good finish—with trouble kept to an absolute minimum—is the first requisite of the men who are responsible for bleaching and dyeing operations. That's not usually achieved by "Rule of Thumb."

Economical operation is very important, too. Diastafor brand de-sizing agent—Type L—is prized for its economy as well as for its superb performance under widely varying conditions of use.

When we say, "You can buy more enzymes per penny with Diastafor," these words have a special meaning for those who are interested in efficiency-plus-economy. Diastafor is made of a blend of enzymes that will work well in a wide temperature and pH range to meet all enzyme de-sizing requirements.

When you use Diastafor—Type L—"too much" is not necessarily *better*. If you are de-sizing by "Rule of Thumb" you may be wasting precious enzymes.

Accurate measurement of Diastafor—Type L in your finishing operations will pay out.

Diastafor—Type L is an all-purpose de-sizing agent that will give you a fine performance whether you are working with cottons, rayons or mixed goods. It will help keep your dyeing even and unshaded—free from streaks or blemishes. There is never any impairment of tensile strength, for Diastafor is kind to your fabrics.

If you have not used Diastafor—Type L—in your mill, we'd like to suggest that you give it a trial now—on one of your hardest lots, if you like. You will then see for yourself what it can do to give you easy, economical, trouble-free operation. You'll also know why it has been the leader in its field for so many years.

Write us for prices or more information. Standard Brands Incorporated, *Diastafor* Department, 595 Madison Avenue, New York 22, New York.

DIASTAFOR

A TRADE MARK OF STANDARD BRANDS INCORPORATED

The Best-known Name in Spinning-Frame Speed-up!

. . . Millions of spindles (more than 8,000,000) are today turning out more and better yarn through being equipped with Meadows Ball Bearing Tension Pulleys.

. . . End-down and "Monday Morning Band Trouble" can be materially reduced by the even tension Meadows keep on bands or tape at all times.

. . . And this increased quality and production is achieved at lower cost — because Meadows Ball Bearing Tension Pulleys use less power, and never drag due to lint or dirt.

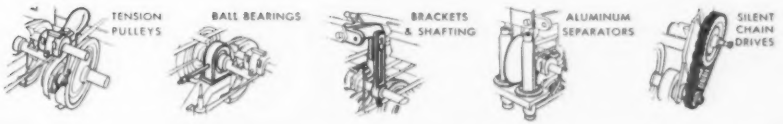
. . . Don't let old equipment pull down production and profits another minute. Investigate the possibilities of modernizing with Meadows Conversions. This Conversion consists

. . . of silent chain drive, ball bearing jack studs, individual driving pulleys, high-strength ground and polished shafting (mounted on heavy duty ball bearings), and ball bearing tape tension pulley assemblies

. . . which will increase output to the point where your old frames can be made competitive, both in quality and quantity of production, with new frames.

. . . Send us your inquiries. We will be glad to have one of our representatives survey and estimate your frames without obligation, within their territories.

We engineer and service each installation, design and manufacture all parts.



MEADOWS MANUFACTURING COMPANY • ATLANTA, GEORGIA

Representatives: **JAMES P. COLEMAN, P.O. Box 1351, Greenville, South Carolina • WALTER S. COLEMAN, P.O. Box 722, Salisbury, North Carolina • MATTHEWS EQUIPMENT COMPANY, 93-A Broadway, Providence, Rhode Island • SAM HOGG, Atlanta, Georgia**

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

could this be your card room?

Does your card room still look like this? If so, consider the benefits of modernizing. With a Westinghouse individual drive on each card you do away with line-shaft drives and all their costly problems. There's no more shaft bearing maintenance, no messy lubrication. No long belts to stir up lint, increase static, endanger workers. You eliminate power waste in belt slippage, bearing friction. The whole line isn't down when one card needs service. Cards start easier, speed is more uniform, over-all productivity goes up.

Your Choice of Three Drives

Three *service-proved* Westinghouse card drives make these improvements possible. Each drive has advantages to meet your particular needs. Each consists of the Westinghouse card controller, designed specifically for card service, and one of three types of Westinghouse card motors. Two of these motors drive through chain or belt speed reducers while the third type, the Westinghouse gearmotor, combines motor and speed reducer in one factory co-ordinated unit!

High Starting Torque

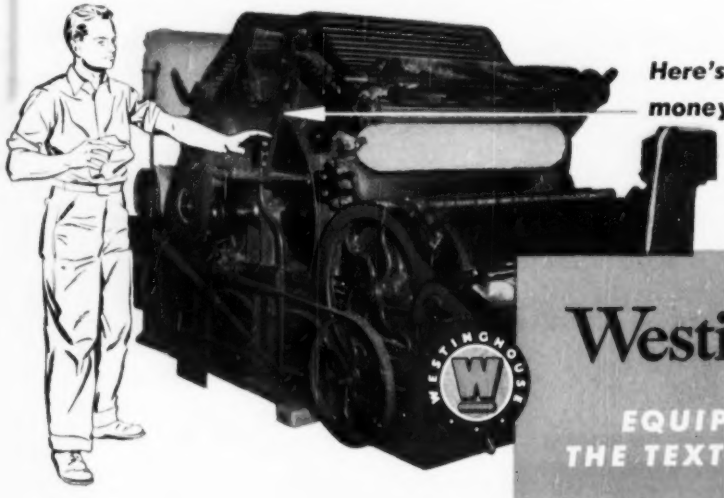
All three card motors have the high starting torque needed to overcome the card inertia and bring it swiftly and smoothly to running speed. These motors have pre-lubricated, factory-sealed bearings. *They need no lubrication and injurious dirt can't get in.*

Special Card Motor Controller

The controller is specially built for card service. To prevent accidental card reversal, the reversing switch is *inside* the controller—and the controller door *cannot be opened* while the card is operating. The enclosure is the NEMA IA gasketed-type to keep lint from the mechanism. Moreover, this enclosure is bonderized for high rust resistance, an exclusive Westinghouse feature.

Check over operating and maintenance costs in your card room. Then call your Westinghouse office for more information on Westinghouse Card Drives or write for folder B-4596. You'll find you can make *major savings* in your operation. Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Penna.

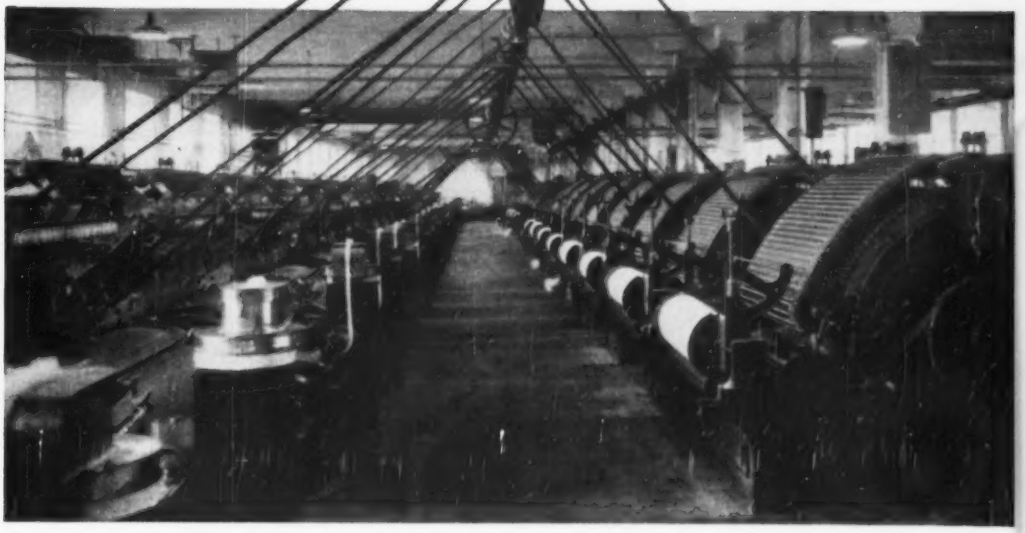
J-94841



Here's the modern money-saving way!

Westinghouse

EQUIPMENT FOR THE TEXTILE INDUSTRY

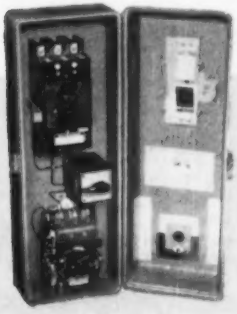


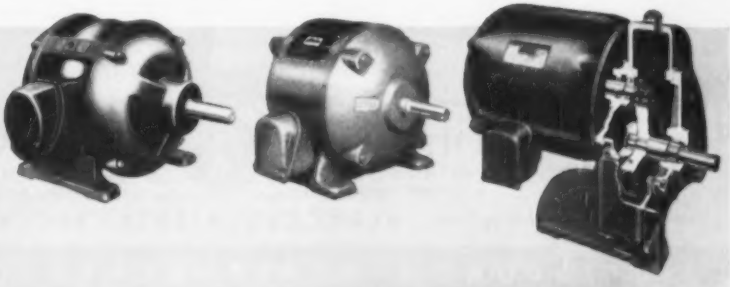
Special Card Controller
—with tamper-proof reversing switch, built-in circuit breaker, "De-ion" arc quenchers, Bonderized enclosure.

Lint-Free Motor Drive
—making fine production records in many mills. An air blast through the motor keeps it *really* free of lint.

Totally-Enclosed Motor
—*two inches shorter* than conventional motors to give you extra aisle space. And lint can't even get in!

Westinghouse Gearmotor
—the *ultimate* in card drives. Motor and speed reducer *in one unit*. No belt maintenance, less upkeep all around.

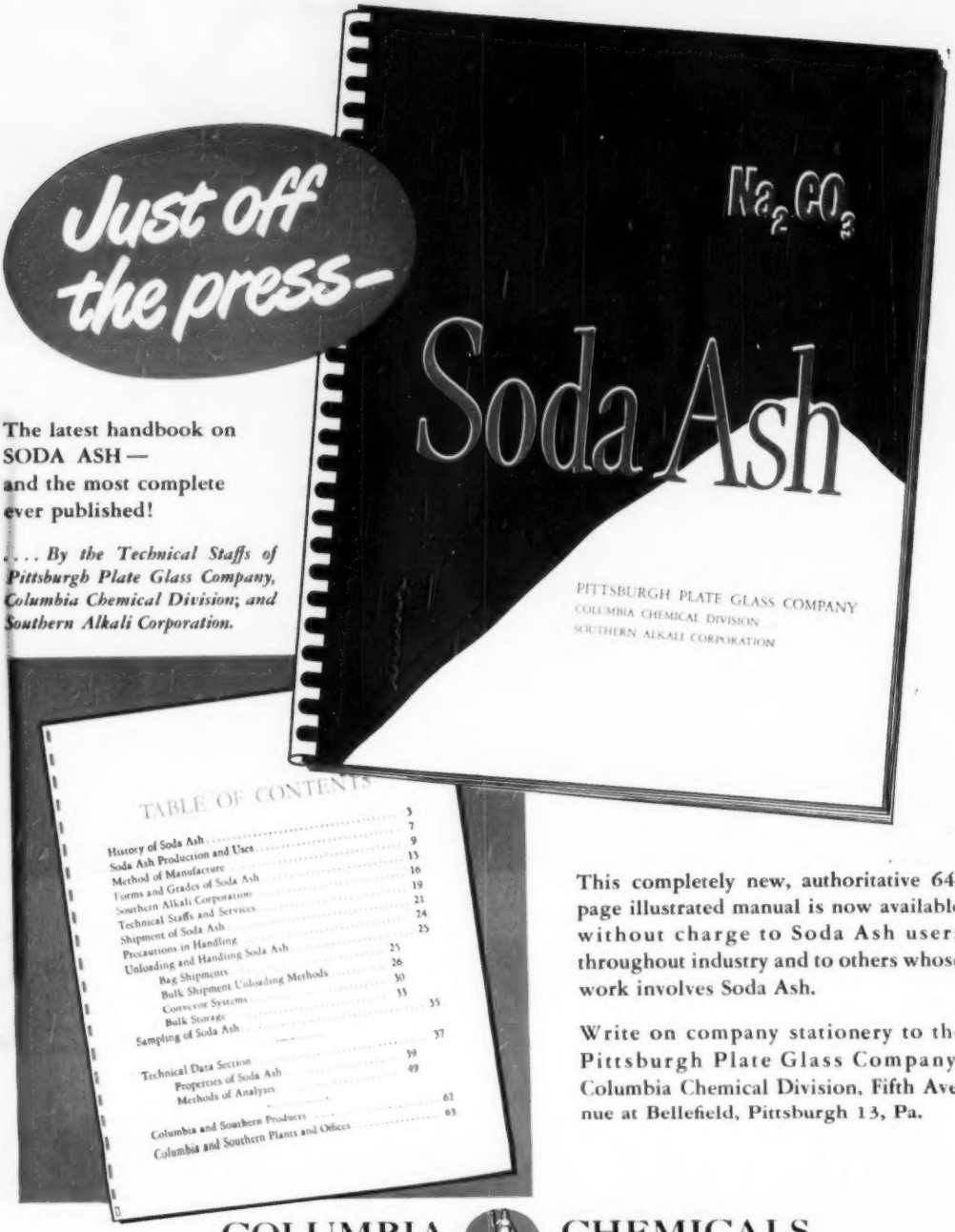




Just off the press—

The latest handbook on SODA ASH — and the most complete ever published!

. . . By the Technical Staffs of Pittsburgh Plate Glass Company, Columbia Chemical Division; and Southern Alkali Corporation.


Na_2CO_3
Soda Ash
PITTSBURGH PLATE GLASS COMPANY
COLUMBIA CHEMICAL DIVISION
SOUTHERN ALKALI CORPORATION
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History of Soda Ash 3
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Methods of Analysis 49
Columbia and Southern Products 62
Columbia and Southern Plants and Offices 63

This completely new, authoritative 64-page illustrated manual is now available without charge to Soda Ash users throughout industry and to others whose work involves Soda Ash.

Write on company stationery to the Pittsburgh Plate Glass Company, Columbia Chemical Division, Fifth Avenue at Bellefield, Pittsburgh 13, Pa.

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CHICAGO • MINNEAPOLIS • BOSTON
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PITTSBURGH PLATE GLASS COMPANY

ERIEZ MAGNETIC AGE

Issued periodically in Erie, Pennsylvania, by the Eriez Manufacturing Company, Producers of Magnetic Equipment.

MILLERS EVERYWHERE HAIL ERIEZ SEPARATORS

In hammer mills, attrition mills, corn cutters and other milling equipment from coast to coast Eriez Magnetic Separators are protecting machines and animal feed from the harmful effects of tramp iron.

Some interesting excerpts from users' letters to us follow:

". . . it has more than tripled the life of the screens . . ."

". . . it was in the hottest part of the fire and we thought it was ruined . . . we put it back . . . and it is still giving good service."

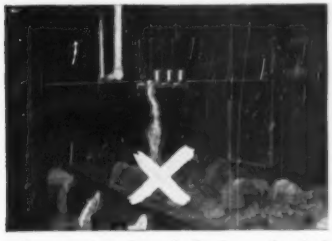
". . . 78 shingle nails out of 10 sacks of grain . . . money could not buy our Eriez Separators."

But why go on? That's the way most people feel about Eriez Separators.

For information on milling applications, circle the number 4 on the coupon at right below and mail to Eriez.

"X" MARKS DANGER SPOT FOR FOOD OR CHEMICAL PROCESSING EQUIPMENT

The new Eriez Electronic Metal Detector puts the finger on tramp metal, ferrous or



other, passing through food or chemical processing lines.

Detection of the metal is by electronic means. Location and elimination may be arranged by any means best suited to the product in process. Audible signals, visible signals, reject arms and other devices are used for location and elimination. Removal of the offending material is mechanical or manual.

In the installation shown the Eriez Detector is protecting a limestone crusher. It stops the line and marks the location of tramp metal which would wreck jaw crushers and stop production for days. The installation paid for itself in 2 months.

The search coil of the Eriez Detector is custom built for each application. It is adjustable for size of material, operates with efficacy at any depth of burden, and at conveyor speeds up to 900 feet per minute.

For more information, circle the number 1 on the coupon right and mail to Eriez.

TEXTILE MANUFACTURER SAVES $5000 PER YEAR MAINTENANCE COSTS

W. L. Baitey, Superintendent of the Cotton Department of Upholstery Supply Co., San Francisco says of Eriez permanent magnetic separators:

"I made a test for a year on six garnett machine feeders and we got 37½ pounds of tramp metal, so you can see how much they saved on repairs alone. I feel I would be safe in saying that at least $5000 a year is what we save. That isn't counting down-time."

And down-time, indeed, is often the most serious consequence of a breakdown in production. Where heavy machinery is involved, the time and cost may run to 3 weeks or several thousands of dollars. Though insurance may cover damage to equipment there are collateral losses which are never made up.

Fires are a particular nuisance in the textile field. The hazards are great, especially on night shifts, when limited emergency crews are available. Personnel throughout the plant are disturbed at their work. Material flow stops. Even if the fire is quenched before great damage is done, plant personnel must take time to clean up.

The extent of this danger is shown by one southern cotton mill reporting 22 opener picker fires in a single year! Combine this fact with the estimate of insurance companies that 78% of the reported opening and picker room fires are caused by tramp iron. Eriez permanent magnetic separators eliminate this hazard quickly and efficiently.

For more information on textile applications circle the number 5 on the coupon below and mail to Eriez.

Close-up of Eriez spiked apron magnet swung back for cleaning.

FOUNDRY SAVES MONEY

R. V. Shaffer, Asst. Factory Mgr. of the Dayton Steel Foundry Company, is elated at the success of his Eriez Magnetic Separator in removing steel shot and other metal pieces from foundry sand to avoid damage to machinery.

The installation is a magnetic pulley 12" in diameter carrying a 16" belt, a type widely used in foundries and other metalworking plants.

Magnetized bars run lengthwise of the pulley and create a magnetic field through the belt which carries the material to be cleaned. Non-magnetic sand falls off the belt as it passes the tangent point of the pulley, while the metal clings to the belt until it is carried out of the magnetic field, then falls into its own bin.

For more information, circle the number 2 on the coupon below and mail to Eriez.

PLANT SURVEY DETERMINES MAGNETIC EQUIPMENT NEEDS

There are said to be over 20,000 uses for magnetic equipment. These include such varying uses as removal of tramp iron to forestall fire or mechanical damage, separation of microscopic iron which might contaminate the product, substitution of magnetic for mechanical actuation.

Most manufacturing people know of these uses but there are scores of others known to but few people. Could be that some of them are right in your plant. That's where our magnetic equipment engineers come in, if you'd like.

No obligation, of course, when you ask for a survey of magnetic equipment applications in your business. On our part: no strong-arm selling; you'll get a thorough, honest appraisal of your *exact* requirements explaining how the equipment can provide you with a profit.

For more information, circle the number 3 on the coupon below and mail to Eriez.

ERIEZ MANUFACTURING COMPANY
501 East 12th St., Erie, Pa.

RETURN THIS COUPON

Name

Title

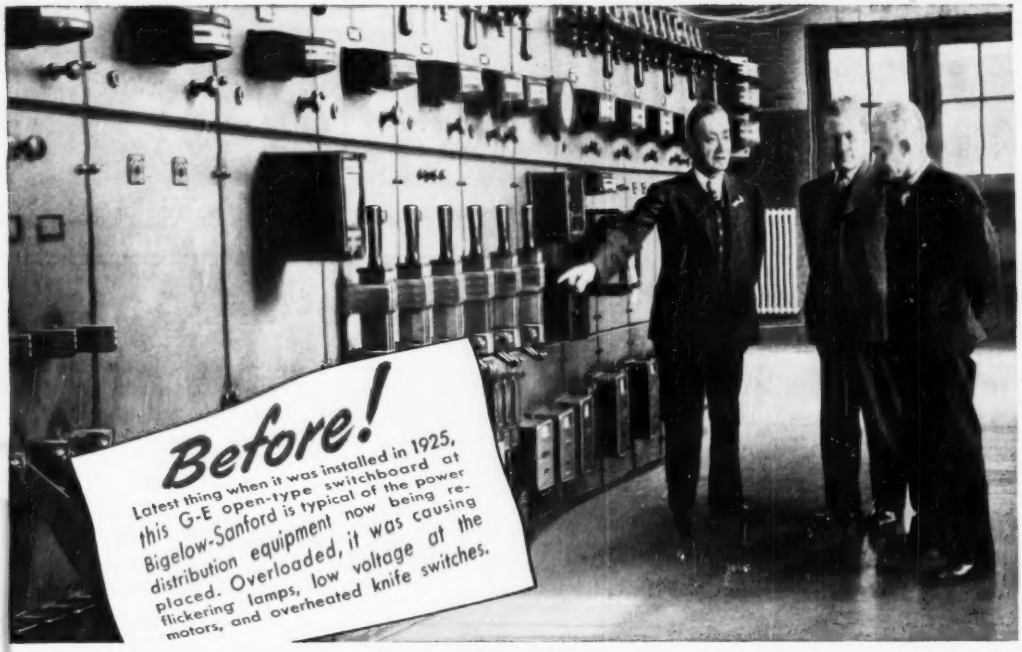
Company Name

Street

City and State

1. 2. 3. 4. 5.

 For more information, write direct or use Reader Service post card.

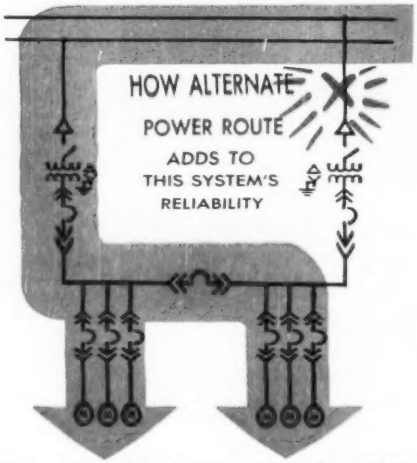

Before!
Latest thing when it was installed in 1925, this G-E open-type switchboard at Bigelow-Sanford is typical of the power distribution equipment now being replaced. Overloaded, it was causing flickering lamps, low voltage at the motors, and overheated knife switches.

BIGELOW-SANFORD BOOSTS

PLANNING TO MODERNIZE?

See how other textile mills are doing it in General Electric's new full-color and sound movie, "Textiles Unlimited." Over 40 ways to improve quality and cut costs are shown. Ask your G-E representative to arrange a showing for you of this More Power to America presentation.

POWER
DISTRIBUTION SYSTEMS
for Textile Mills



In the secondary selective power system used at Bigelow-Sanford, a power detour to secondary circuits is provided by closing the tie circuit breaker between the secondaries of two transformers. Thus, if a primary-circuit fault de-energizes one transformer, essential load is bypassed to the other, and important production keeps going.

After!
This G-E double-ended load-center unit substation is one of the new units being installed in Bigelow-Sanford's modernization program. The new power distribution system will provide maximum reliability, permit considerable flexibility, and allow for future expansion.

PRODUCTION CONTINUITY

Modern General Electric power-distribution system, replacing outworn equipment, assures reliable textile-mill power—helps keep machines on the job!

Recognizing that modern textile machinery is helpless without adequate electric power, the Bigelow-Sanford Co. has completely modernized the outgrown power-distribution system in its Amsterdam, N. Y. plant. The new equipment was purchased from General Electric, taking full advantage of this company's technical assistance and know-how.

For thorough reliability, the new system uses the modern load-center principle with a dual power-supply route. Power at 13.2 kv is carried right to the mill's centers of electrical load, where it is stepped down to 600 volts for utilization. Now light flicker and cable heating losses are reduced, proper voltage is maintained at the motors, and production delays are cut—because machines stay on the job more continuously!

Your power distribution system, too, can be modernized to pay off in more continuous production, when engineered to your specific needs by G-E textile-mill specialists. To help make your mill modernization program a success, call in your G-E representative early. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

654-7

From one Monsanto department...

YOUR CHEMICAL DIRECTORY FOR RAYON AND SYNTHETICS

Sizing — Monsanto's Stymer S is being used on a broad scale for filament acetate, and now is gaining increased use on viscose. Stymer provides a tough, uniform, flexible size for the yarn; it carries off static electricity and provides good weaving properties. As a synthetic resin Stymer doesn't gel, so large mixes can be stored for long periods, and cleanup time is saved because Stymer won't clog pipes or valves. It doesn't build up on the dry cans.

Spinning – As in regular woolens and worsteds, Syton increases the yarn strength of *blends* spun on the woolen system. The use of Syton, colloidal dispersion of silica makes possible stronger and more uniform yarn. Stronger yarn means fewer ends down during spinning, with consequent production increases and labor time saved. Because of the increased yarn strength, it is also possible to spin closer to the limit spin and get increased fabric quality per pound of raw material.

Resin Finishing — Catalyst AC for both urea and melamine finishing offers a number of advantages. Resin baths are stable for considerably longer periods than those catalyzed with diamonium phosphate. Cure time is comparable or faster, and resin retention (measured after two washes) usually is greater. A number of mills have achieved an improved, softer hand on the finished goods through the use of Catalyst AC. And a number of mill men look upon Catalyst AC as insurance against some of the causes of odor.

Suitings — Wrinkle resistance by Resloom, Monsanto's melamine resin, has been very successful on the market on a wide number of constructions. Resloom provides a lively, springy hand which repels some wrinkles and sheds the rest. At the same time, Resloom provides durable washability on rayon fabrics.

Marquisettes — Crisp, durable finishes, with increased salability are provided by the Merlons, a series of styrene resin dispersions . . . each designed to give a specific effect on various fabrics and constructions. The Merlons can be combined with Santaloom, Monsanto's urea resin, to achieve a crisp finish, wrinkle resistance and washability.

Pilot plant slasher at Textile Chemicals Department laboratory.

Spuns — Durable crease resistance, and washability, is provided by the urea resin, Santaloom. Successfully applied, at low cost, on a wide variety of rayon constructions, Santaloom gives the *added* advantages of a fine, lively hand.

Dress Goods — The salability of rayon dress goods is further increased with the use of Monsanto's Merlons, styrene resin dispersions which give added body, and a "worsted-like" hand. The Merlons are a series of dispersions, which can be used separately or in combinations to produce a variety of effects on a given fabric. Generally, they provide a finish which is durable and low cost.

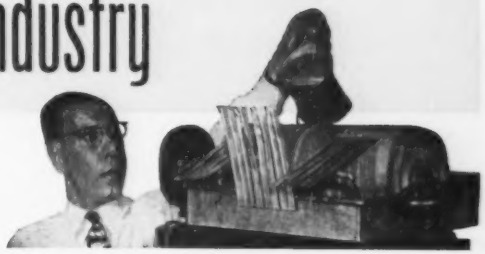
Flame Retardance — Rezgard A for viscose; and Rezgard E for acetate, are Monsanto's fugitive-type flame retardants. Durable to dry cleaning, the Rezgards do not alter tensile strength, hand, or other characteristics of the fabrics.

Slip Resistance – Monsanto's Syton, a dispersion of silica which promotes "inter-fiber drag," is also effective in controlling yarn slippage in underwear fabrics. Syton is effective on all types of synthetic and natural yarns.

Direct Dyed Goods — Monsanto's Dye Fixative 105 improves the wash fastness of direct-dyed goods and keeps the cost of the dyeing operation well within a low cost range. The dye fixative increases the color quality without adding substantially to the cost.

FOR INFORMATION PLEASE SEND THE COUPON

Serving the Textile industry



A FAMILY OF CHEMICALS FOR COTTON AND WOOL

COTTON

Piece Goods – Sted, Monsanto's non-sudsing detergent, is powerful yet chemically mild, and won't damage the most delicate fibers. Sted works well in hard water without softeners. Easy rinsing saves time, labor and helps prevent odor.

Flame Retardance – Monsanto's Rezgard A, specifically designed for cotton, meets New York City standards for fire retardants on textiles. Rezgard is a fugitive-type, and water soluble, although it is durable for considerable periods of time. Rezgard does not alter tensile strength, hand, or other characteristics.

Dyeing – A powerful wetting and scouring agent, Monsanto's Sterox proves effective as a dyeing assistant, for a growing number of cotton finishers. Sterox competes favorably with other detergents on a money-value basis.

Merlon – The salability of cotton is greatly increased by the use of the Merlons . . . Monsanto's series of water dispersible resin polymers. The Merlons provide a fine, crisp, durable hand on cotton sheetings . . . a percale-like finish for very little more than the cost of starch. Wear resistance also is improved.

Tickings – The Merlons improve hand, as on sheetings described above. In addition, a special Merlon formulation gives improved wear resistance on tickings.

Dress Goods and Suitings – Resloom, Monsanto's melamine resin, provides durable wrinkle resistance on a wide range of cotton constructions. Resloom has proved successful on millions of yards now in consumer hands; the cotton snubs some wrinkles and sheds the rest. In addition to wrinkle resistance, Resloom provides durable stability.

Direct Dyed Goods – Improved washfastness is gained by the use of Monsanto's Dye Fixative 105. In direct dyed goods, the dye fixative improves the quality without substantially raising the finishers' costs.

Reg. U. S. Pat. Off.: Stymer, Syton, Resloom, Merlon, Santaloom, Rezgard, Sted, Sterox.

WOOLENS & WORSTEDS

Stock – For the toughest cleaning jobs in the world, Monsanto offers two powerful detergents, Sterox in liquid form, Sted in drypowder form. Monsanto offers specific formulations for your particular cleaning problem. Both detergents are powerful and yet chemically mild, and *rinse easily* . . . saving time and labor.

Syton – Monsanto's colloidal dispersion increases yarn strength from 10%-to-30% depending upon the particular mill. Applied at the picker or gill box, Syton provides better carding, more uniform roping or roving. Because of increased strength, ends down are reduced and it's possible to spin closer to the limit spin. Mills, therefore, get the most value per pound of expensive stock.

Rug Yarns – In scouring rug yarns, Monsanto's Sted gives a uniform, clean base for dyeing. Its chemical action is mild, yet very powerful. Because it is non-sudsing, Sted rinses easily and mills consequently save operating time and labor.

Shirtings, Blankets – The foremost and outstanding method for wool shrinkage control. Woolens with Resloom washability are already on the market, and successful in the most exacting consumer tests. As many as 75 washes with less than 5% shrinkage. Through the new processes, Resloom can now be applied without investment in expensive curing equipment.

Woolen Suitings – Monsanto's Merlon, a series of styrene resin dispersions, gives added body to woolen suitings. Monsanto can recommend one of the Merlon dispersions exactly suited to individual wool fabric requirements.

Suitings – Resloom builds body into the fabric, in addition to washability. The bodying effect produces better drape and better tailor-ability . . . in addition to a hand which retains the fineness of traditional wool suitings.

Piece Goods – Monsanto's liquid-form Sterox is now used in continuous scouring systems for piece goods. Sterox is a powerful, yet chemically mild detergent, which *rinses easily* . . . and cleans thoroughly throughout without damaging the most delicate goods.

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept., Desk T.W.T. 34, Boston 49, Mass.

Dear Sirs:
Please send me information on textile chemicals for:

Name Title

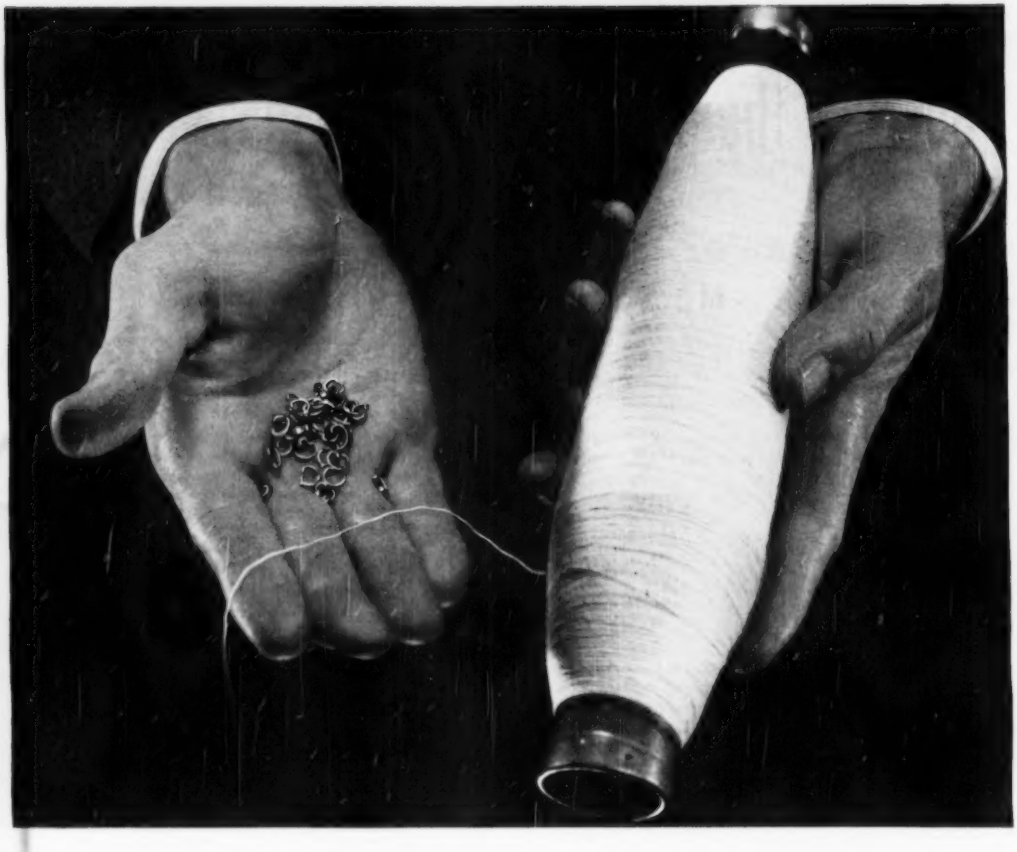
Company

Address

City Zone State

MONSANTO
CHEMICALS – PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND



How Much Per Traveler-Pound?

The true test of a traveler is the number of pounds of top quality yarn which can be spun or twisted with it before it wears out. The more yarn produced, the lower your cost per traveler-pound.

Millmen who keep a sharp eye on production costs always judge travelers on this traveler-pound rating. And that's why so many choose Victor Travelers for spinning or twisting.

Victors consistently cost less per traveler-pound for two reasons. First, because there are no better travelers made, by any test of quality and uniformity. Second, because Victor Service Engineers, all mill-trained men, can quickly grasp your special problems, and come up with the right answer.

They can not only recommend the *right* traveler, but can often make other suggestions for improving your quality and production, —whether you are running conventional fibers, synthetics, or blends.

Plan now to talk to a Victor man about your costs per traveler-pound. Write, wire, or phone the nearest Victor office . . . for prompt service.

•

VISIT THE VICTOR BOOTHS 254-255 AT THE AMERICAN TEXTILE MACHINERY EXHIBITION, ATLANTIC CITY, MAY 8-12

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

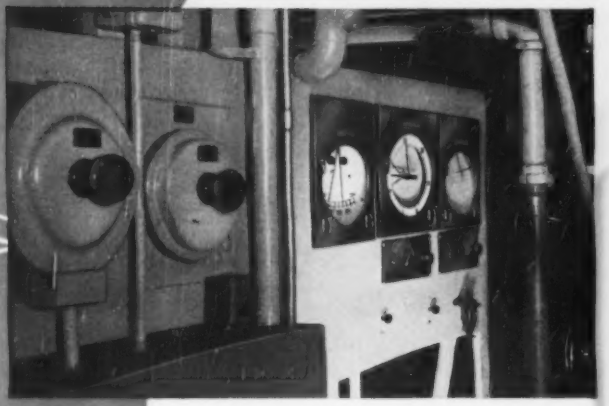
PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 5-0891

Simplify, Improve, Economize

. . . your continuous dyeing range with

BROWN ADVANCED INSTRUMENTATION



ADVANCED INSTRUMENTATION INCLUDES:

***ElectroniK* Potentiometers** . . . for recording and/or controlling pH, oxidation-reduction potential, temperature and speed.

Brown Electric Flow Meters

Brown Liquid Level Gauges

Brown Thermometers

Brown Pressure Gauges

Continuous dyeing requires continuous control of *all* variables, not of one or two. Any deviation of temperature, level, flow or pressure soon reflects its "mistake" in subsequent steps of the process. These "mistakes" can prove costly. That's why progressive dyers insist on automatic control for their entire dyeing range.

A typical installation of automatic control is illustrated in the photo above. Here is shown the control for padder temperature and level . . . a part of the completely integrated system which unerringly guides the process from padder to final dry can.

Whether your continuous dyeing follows the Williams System or the Du Pont Pad-Steam System, better dyeing operations can be assured when Brown instrumentation controls the process.

Brown *creative* instrumentation helps produce *better* finished textiles at *lower* operating costs. Call your local Honeywell engineer for help with every variable in your range . . . he is as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

MINNEAPOLIS **Honeywell**

BROWN INSTRUMENTS

 For more information, write direct or use Reader Service post card.

American Blower—a time-honored name in air handling

In New Orleans, as in other cities, American Blower Air Handling Products serve commerce, industry and public utilities. For air handling data in New Orleans, call American Blower —Raymond 5936. In other cities, consult your phone book.

Look before you buy. Comparison tests prove the superiority of American Blower Products. There's a big difference in quality, design, quietness, operating costs and efficiency between American Blower and other air handling equipment.

Air is free . . . use it profitably!

RECOMMENDING or specifying fine, quality equipment for a job is a great satisfaction. At times, however, it's a problem to judge whose equipment is right for the job. And on that score we'd like to suggest these five points to guide you in your selection of air handling equipment:

(1) Is the proposed equipment built by a reputable manufacturer with years of experience?

(2) Has the manufacturer facilities for research and testing?

(3) Are units tested in accordance with the Standard Test Code?

(4) Are the services of experienced engineers available in the field?

(5) Will the manufacturer (if practical) furnish equipment for comparative tests?

If you consider the merits of the air handling equipment you are about to specify on your jobs in the light of these points, we're certain you'll agree that American Blower offers more value per dollar invested.

Phone our nearest branch office for data or consult your Heating, Ventilating and Air Conditioning Contractor.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO

Division of American Radiator & Standard Sanitary Corporation

YOUR BEST BUY

AMERICAN BLOWER

AIR HANDLING EQUIPMENT

Serving home and industry

AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

LOOK...
NO HOOK...
up to 3 times faster threading!
US
presents the New
GOSSELIN
"3 in 1"
TENSION SHUTTLE
Pat. applied for
HAND THREADING through the guide slit ends need for weaver's hook — is so simple the greenest hand can thread it 2 to 3 times faster than conventional shuttle. Time saved reduces worker fatigue, means more looms per battery hand.
THREE TENSION HOOKUPS The pad or drag tension is easily adjusted for any type yarn, of any degree of elasticity. The pad tension alone can be used, with the yarn by-passing the take-up tension (1). The take-up tension alone can be used, with pad tension released (2). Or, a combination of both pad and take-up tensions can be used (3).
TROUBLE-FREE, POSITIVE TAKE-UP In threading, slight pressure of finger advances the loop and yarn slides easily into position. Provides positive trap — yarn is locked in loop, can't balloon or work out. Screw permits easy adjustment of tension.
NEW, STRONGER ONE-PIECE BOX Flange-type, it permits a closed bottom design. Box is stronger, withstands constant vibration without breakage. Spindle can be quickly leveled with adjusting screw. Box can be dimensioned to take any type of quill. Patented double-shouldered steel bolt can't work out through front or back wall. Avoids danger of reed spoilage or smashes from break outs.

Here's a new pacemaker for production from C&K Shuttle-changing Looms that will set entirely new records of speed and efficiency.

Hand threaded in a flash, it eliminates the need for the weaver's hook. Skilled hands can cut threading time to one-third, thus looms per battery hand can be considerably increased.

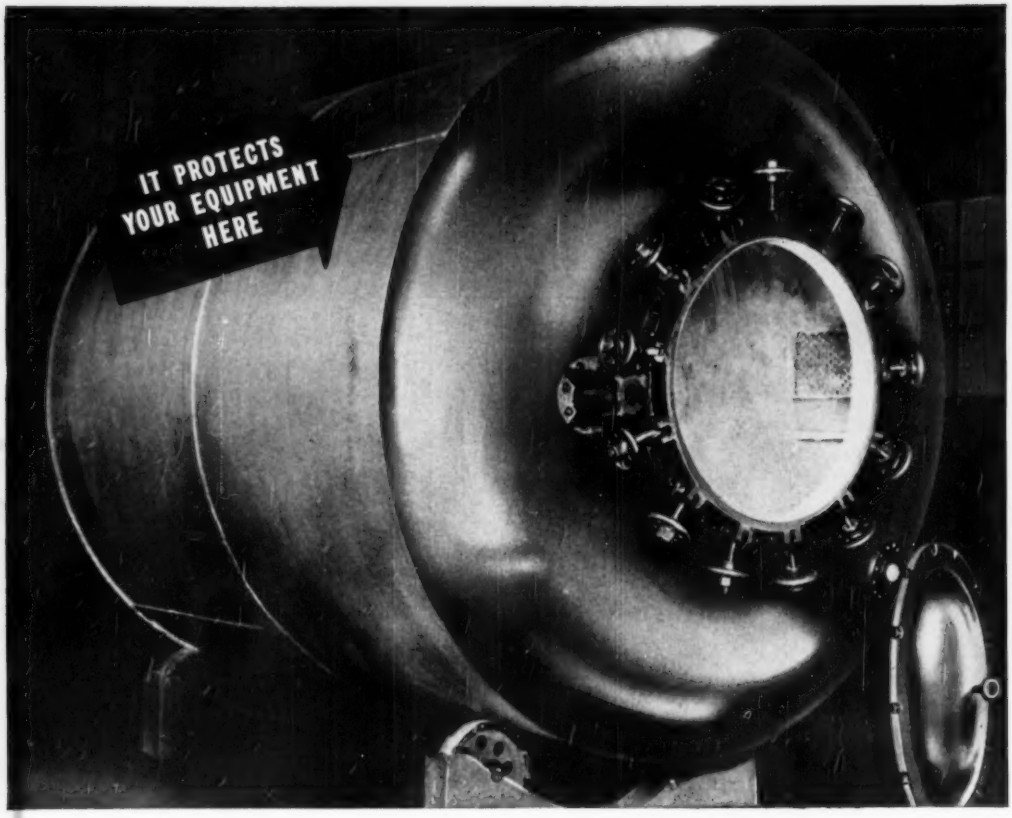
Offering a choice of 3 tension hook-ups in one shuttle, its versatility is unrivaled. With one type shuttle you can handle yarn of any degree of elasticity, meet an endless variety of weaving specifications. Accordingly, your shuttle inventory can be materially reduced. *No other shuttle* provides *both* pad tension and take-up controls.

Check over the many exclusive features of the U S Gosselin Tension Shuttle listed here. Then ask your U S representative for a demonstration. You'll agree it's the "all-purpose" shuttle you've always wanted . . . a time-saving, trouble-free, production-boosting pacemaker that will win enthusiastic approval from battery hands and front office alike.

US BOBBIN & SHUTTLE CO.

LAWRENCE • MASSACHUSETTS

PROVIDENCE, R. I. • PHILADELPHIA, PA. • JOHNSON CITY, TENN.
GREENVILLE, S. C. • CHARLOTTE, N. C. • • Representatives: CHICAGO: Albert R. Breen, 80 E. Jackson Blvd. • CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont. • ALABAMA: Young & Van Supply Co., Birmingham



Specify "ELC" Where Corrosion Strikes Hardest

If your new equipment will be exposed to severely corrosive acidic processing solutions, Armco Stainless Steel Type 316 ELC could well be the metal you need to protect areas adjacent to welds.

Armco ELC is just as corrosion-resistant in these areas as elsewhere. The reason is the *Extra*-Low Carbon content (.03% maximum) of Armco's ELC grades of stainless.

This eliminates costly intergranular corrosion by preventing harmful carbide precipitation due to the effects of welding. Areas near the welds staunchly resist corrosive attack when your equipment is in service.

Equally important to you, Armco ELC grades *cost less* than corresponding types stabilized by the addition of columbium or titanium.

WIDE RANGE OF USES

Armco Type 316 ELC is ideal for corrosive conditions at service temperatures below 800° F. It can cut operating costs and prolong service life in agers, bleaching machines, and fulling machines; in carbonizing equipment, dye kettles and piece carbonizers (acid tank) in wool processing equipment.

Find out how *you* can take advantage of the special properties of Armco ELC. Just write us, or ask your equipment fabricator to inquire.

ARMCO STEEL CORPORATION

4350 CURTIS STREET, MIDDLETOWN, OHIO • PLANTS AND SALES OFFICES FROM COAST TO COAST • THE ARMCO INTERNATIONAL CORPORATION, WORLD-WIDE

ARMCO

Traditionally

THE FINEST...

NEOLANS

BY CIBA

The time-tested choice
for all quality wool fabrics,
Neolan Colors are
distinguished by their

GOOD FASTNESS
LEVEL DYEING
SIMPLE APPLICATION
EASY SHADING

Illustration Courtesy of
Abercrombie & Fitch Co.

CIBA COMPANY INC.

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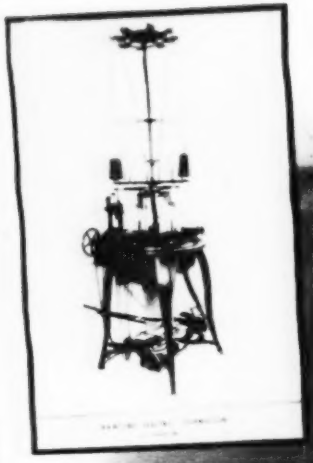
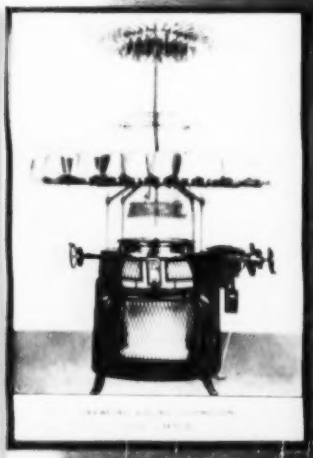
Boston Chicago Charlotte
Providence San Francisco Philadelphia





The Leading Knitting Machines

do better work with the

CRAWFORD

ELECTRIC STOP MOTION

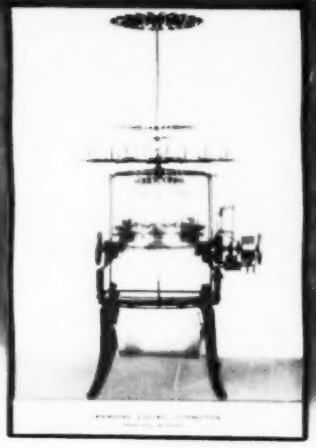
To gain top efficiency in knitting, the CRAWFORD electric stopmotion offers these features:—

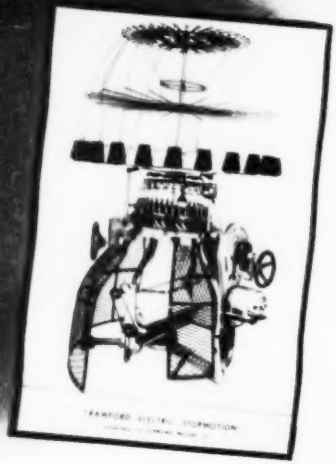
1. Completely protects the yarn from cone to needle.
2. Stops machine immediately for loose ends, slubs, knots, catches or breaks-at needle or near it.
3. Stops machine immediately upon an electrical failure to the stopmotion.
4. Provides quick easy adjustment for different weights of yarns.

Designed, Engineered and Manufactured by

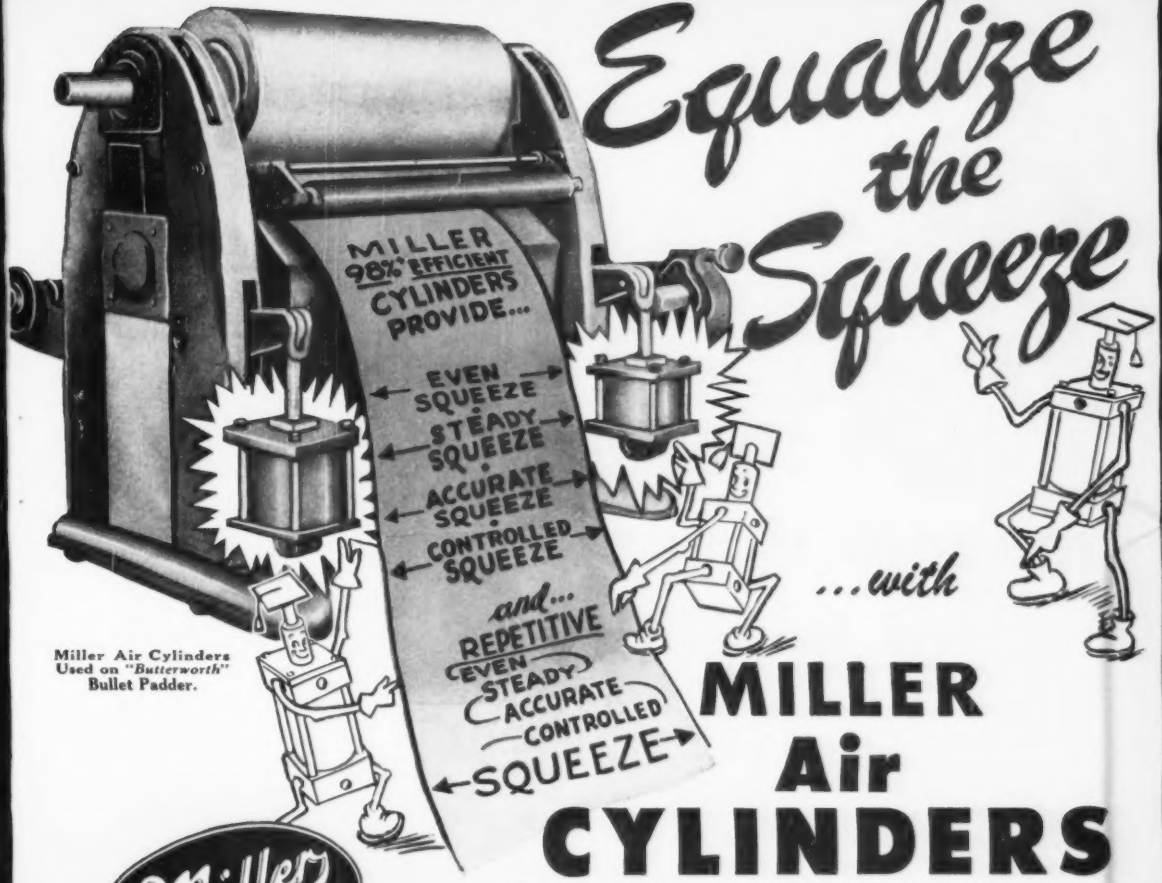
The CRAWFORD MFG. CO., INC.

NEW BRUNSWICK, N. J. *Tel.* 2-0603





Equalize the Squeeze



Miller Air Cylinders Used on *"Butterworth"* Bullet Padder.

...with

MILLER Air CYLINDERS

Miller Air Cylinders economically provide the steady, even, repetitive "squeeze" so essential for the pressure rolls of textile machinery and equipment.

Precision-accurate adjustment and repetitive application of pressure to always the exact degree desired are assured by the high-efficiency, leakproof operation of these cylinders and the extremely low "break-away" pressures required to obtain smooth piston movement. Even when the operating plant air pressure is again applied after days of machine inactivity, piston movement is instantaneous—smooth- -chatter-free . . . because the Miller *self-regulating, wear-compensating* piston and rod seals *will not "freeze"* to prevent piston movement or to cause jumpy, jerky action. These seals never need adjustment, have no provision for adjustment, therefore *cannot be over-adjusted.* The Miller rod seal operates against the Miller scratch-resistant, rustproof hard chrome plated piston rod; the Miller piston seal operates against the precision-honed, highly polished finish of the Miller rustproof hard brass cylinder barrel. No wonder these seals still give leakproof, efficient service after millions of strokes. No wonder Miller Air Cylinders are completely free from the rust conditions common to ordinary cylinders.

In addition, *dirt wipers* at rod ends keep out all dirt and lint, and *solid steel* heads, caps, and mountings eliminate costly, dangerous breakage.

Write for illustrated cylinder bulletins A-105 and H-104

COMPLETE MILLER CYLINDER LINE INCLUDES: AIR CYLINDERS, 1½" to 20" BORES, 200 PSI OPERATION; LOW PRESSURE HYDRAULIC CYLINDERS, 1½" TO 6" BORES FOR 500 PSI OPERATION, 8" TO 14" BORES FOR 250 PSI; HIGH PRESSURE HYDRAULIC CYLINDERS, 1½" TO 12" BORES, 2000-3000 PSI OPERATION. ALL MOUNTING STYLES AVAILABLE.

Miller

AIR CYLINDERS for

- Bullet Padders
- Washers
- Steamers
- Rope Squeezers
- Bleaching Equipment
- Dyeing Equipment
- Other Textile Machinery

MILLER MOTOR COMPANY

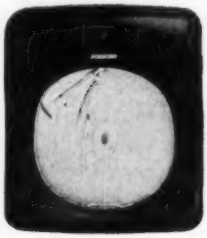
4023-35 N. KEDZIE AVENUE CHICAGO 18, ILLINOIS

AIR AND HYDRAULIC CYLINDERS · ACCUMULATORS · FOUNTEN-DALAMES CYLINDERS · BOOSTERS · AIR MOTORS

CLEVELAND — PITTSBURGH — PHILADELPHIA — DETROIT — YOUNGSTOWN — BOSTON — HARTFORD — NEW YORK CITY — DAYTON — ST. PAUL — FORT WAYNE — INDIANAPOLIS — MILWAUKEE — NASHVILLE — SEATTLE — LOS ANGELES — SAN FRANCISCO — BALTIMORE — ST. LOUIS and OTHER AREAS.

Sales and Service from coast to coast

better measurement of humidity



WET AND DRY BULB INSTRUMENTS

These Foxboro instruments give separate wet and dry bulb records on the same chart . . . in dry bulb ranges from 32°F. to 212°F. They are exceptionally accurate and stable. Bulbs can be placed up to 200 feet from the instrument. Available as recorders, or air-operated (Model 40) and electric (Rotax) controllers, including multi-zone and time-humidity controllers.

DIRECT-READING DEWPOINT INSTRUMENTS

Foxboro recently introduced the first simple, continuous dewpoint measuring instruments for industrial use. Their humidity sensitive element, the "Dewcel", requires no water box or moving air. Accuracy is unimpaired by dust or lint. Foxboro recording and controlling instruments, used with the "Dewcel", give direct readings from −20°F. to 160°F. *dewpoint*, at dry bulb temperatures up to 220°F. Readings easily converted to absolute or relative humidity.

Foxboro instruments for dewpoint include liquid expansion type and electronic type recorders and controllers . . . with either pneumatic or electric control action. The Multi-Record Dynalog® for Dewpoint provides up to 6 records on a single round chart.

®Reg. U. S. Pat. Off.

NO MATTER WHAT the problem, you have at your command a wealth of experience in the application of humidity instruments and instrument systems to textile processes that only Foxboro can offer you.

Ever since it introduced the first successful long-distance wet-and-dry bulb psychrometer, Foxboro has pioneered in the development of new and improved methods for the measurement and control of humidity. In its engineering knowledge and its *complete* line of better-engineered instruments, there's more than likely the ideal solution to your own problem.

Why not write for complete information, or talk it over with a Foxboro Engineer, now? **The Foxboro Company, 84 Neponset Ave., Foxboro, Mass., U. S. A.**

DIRECT-READING RELATIVE HUMIDITY INSTRUMENTS

Direct-reading relative humidity instruments, in both hair and membrane (gold-beater's skin) types. Sensitive, accurate and reliable.

These Foxboro hygroscopic instruments are designed to operate in temperatures up to 140°F. They are available for recording (including the portable model shown here), and controlling (pneumatic M-40, or electric Rotax, operated).

Combination temperature and relative humidity recorders (0—100°F and 0—100°R.H.) are shipped from stock.

FOXBORO HUMIDITY CONTROL

REG. U. S. PAT. OFF.

*EXTREME PRESSURE

All production machinery will last longer — give better service — if the proper lubricant is used. That's why you will find it profitable to use high quality Tycol oils and greases in your plant.

There's a reason! No matter what your lubricating need — *EXTREME PRESSURE, high or low temperature, high speed or any other service condition — there's a Tycol oil or grease suited to your specific requirements.

Refined from the highest grade crudes, Tycol lubricants are exceptionally resistant to breakdown which means greater economy . . . longer machine life for every type of equipment.

Tide Water Associated will gladly recommend the Tycol lubricant that meets your particular requirements. Call, write or wire your nearest Tide Water Associated office today.

TYCOL

INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C. • Pittsburgh • Philadelphia • Chicago Detroit • Tulsa • Cleveland San Francisco • Toronto, Canada

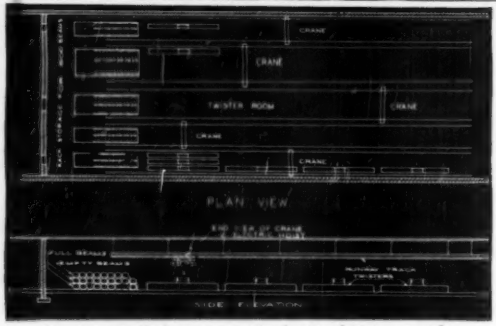
TIDE WATER ASSOCIATED OIL COMPANY

17 BATTERY PLACE · NEW YORK 4, N. Y.

*LEARN WHAT THIS PRODUCT CHARACTERISTIC MEANS TO YOU — READ "LUBRICANIA"

This informative handbook, "Tide Water Associated Lubricania," gives clear, concise descriptions of the basic tests used to determine important properties of oils and greases. For your free copy, write to Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

REFINERS AND MARKETERS OF VEEDOL — THE WORLD'S MOST FAMOUS MOTOR OIL



Hand-propelled cranes with electric hoists provide complete handling service for the entire twister room.

In the ultra-modern twister room of the Excelsior Mills, Clemson, S. C. a Cleveland Tramrail system handles rayon beams from storage to twisting machines. Empty beams are returned on the same equipment.

It is a simple easy task for one man with the Tramrail equipment to convey a beam and set it in position on a twisting machine. Where required two or more beams can be mounted on a twister frame with equal ease. Tramrail equipment eliminates the need of floor trucks entirely and thereby removes a chief source of floor damage.

GET THIS BOOK!
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8465 EAST 287th STREET WICKLIFFE, OHIO

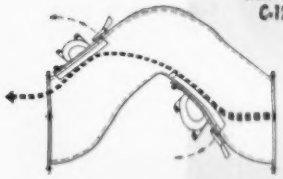
CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

Magnets . . . Magnets . . . Magnets

at Dings

the right magnet for any Tramp Iron removal job

Dings Perma-Plate* installation at Crown Cotton Mills, Dalton, Ga. Available in over 200 different size and strength combinations, the Perma-Plate is non-electric, guaranteed permanent. Install anywhere. For details, send for Catalog C-1205A.



Dings Perma-Plate Hump. No restriction to flow here! For material carried by air through ducts. Material flow impinges directly against two separate Perma-Plate magnets. Double protection! Design causes tramp iron to fall into the strongest magnetic zone for positive extraction. Install horizontally, vertically or at an angle. Available in all sizes.

Dings non-electric Perma-Pulley* above feed table at Veteran Mills, Inc., Georgia. Can also be installed as head drive pulley in belt conveyor system, in which case discharge of iron is automatic. All sizes. Send for Catalog C-1007A. For electromagnetic pulleys, see Catalog C-1001A.

Dings Vertical Plate Electromagnet at Springs Cotton Mills, Fort Mill, South Carolina. Triple pole magnets of unequalled power. Can provide positive extraction of iron at any distance from the magnet face ever apt to be encountered. Complete data on request.

DINGS can recommend precisely the right magnet for your job—without bias. There is a size and type of separator for *every* tramp iron removal requirement.

Moreover, Dings offers you guaranteed equipment. The permanence of Dings non-electric magnets is *guaranteed forever*. The magnetic strength of these magnets is *certified to be as claimed.*

For Full Details on Dings Magnetic Protection Send Now for the New Textile Magnet Bulletin

*Reg. T.M.

DINGS MAGNETIC SEPARATOR CO.
4700 W. ELECTRIC AVENUE
MILWAUKEE 46, WIS.

DINGS Certified MAGNETIC STRENGTH

YOU WON'T SAY "DANG IT" IF YOU "DING" IT

Cast-iron end brackets help maintain alignment, assure smooth, quiet starting and running.
Rotor assembly with ball bearings in place. Large fans assure adequate ventilation.
Strong, rigid cast iron frame; smooth contours permit free circulation of air.
Century's

Century Textile motors are ruggedly built for long service life.

NEW TEXTILE MOTOR SHEDS LINT

-677

- STREAMLINE DESIGN
- COOLING AIR FLOW

Smooth clean air passages permit cooling air to enter the motor through the end brackets. This steady blast of air circulates near the bearings, around the windings and out through the adequate air passages in the frame.

Lint and textile dust pass through the motor readily, without clogging. This results in clean radiation surfaces, which means that the motor operates at normal temperature.

Century Ball Bearing Textile Motors are lubricated at the factory for the life of the lubricant — under normal service, this is several years without re-lubrication.

However, evaporation or oxidation due to high temperature determines the ultimate life of the lubricant. Century construction permits re-lubrication, when required, without dismantling.

In addition to textile motors, Century builds a complete line of electric motors in sizes from ⅛ to 400 horsepower. They are available in open rated drip proof, splash proof, enclosed fan cooled and explosion proof frames to meet any atmospheric hazard.

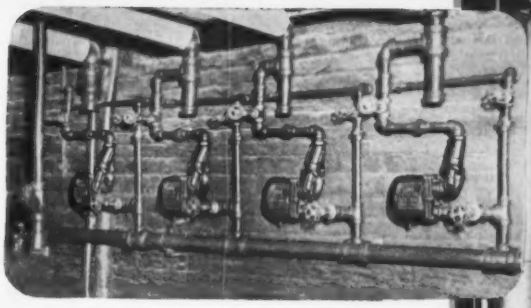
For complete information, including dimensions and prices, write today.

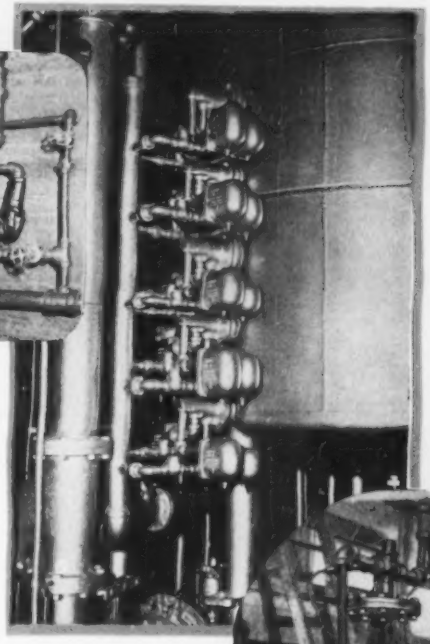
Century C MOTORS

CENTURY ELECTRIC COMPANY

1806 PINE STREET, ST. LOUIS 3, MISSOURI • OFFICES AND STOCK POINTS IN PRINCIPAL CITIES

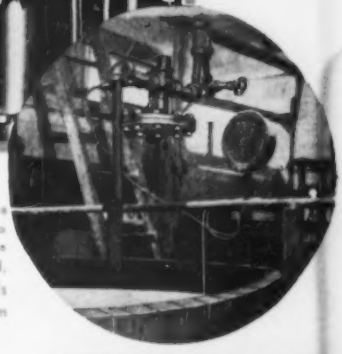
First we make sure of hot, dry steam at the inlet.





Then we select the best of four distinct types of steam traps to remove all condensate without steam waste.

GET YOUR STEAM SYSTEM *Rationalized* WITH SARCO



If automatic temperature control is indicated, Sarco can choose from a wide range of self-operated, pilot or electric controls to do the job at minimum cost.

Operating a steam process with maximum efficiency is more than buying a few steam traps and air vents—it is more than haphazardly applying a few temperature controls.

If it means dollars to you in increased production, improved quality and fewer rejects—it will pay you to let the Sarco man near you make a survey of your needs.

He will come up with definite, practical suggestions of how you can do a better job and save steam besides. Write today—there is no obligation.

The new Sarco draining and venting system for dry cans will save at least 20% warm-up time.

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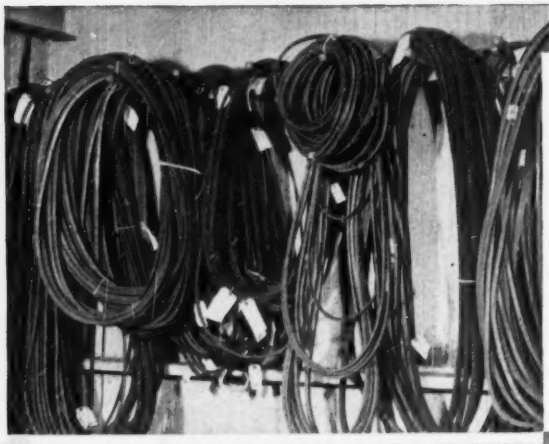
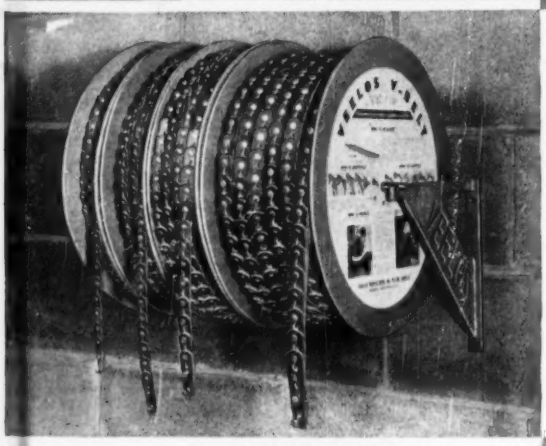


when you use v-belts, remember . . .

VEELOS CUTS COSTS ON V-BELT INVENTORIES

This large stock of endless v-belts is as unnecessary as it is costly and hard to keep under control. Switch to Veelos—the adjustable v-belt—and stop forever all this useless waste of time, space and money.



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Veelos runs true for vibrationless, full power delivery. Veelos installs *quickly* and *easily*—and you never need to dismantle outboard bearings. Veelos can be simply adjusted to maintain uniform tension on all belts.

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These two looms are unmatched for versatility in weaving woolens, worsteds, upholsteries and certain blended fabrics. For the W-family's widely varied range of loom-construction features includes: All widths . . . 2 x 1 . . . 4 x 1 . . . 4 x 2 . . . 4 x 4 . . . bobbin changing . . . filling mixing . . . tri-color . . . convertible . . . pick and pick . . . Knowles head . . . jacquard . . . friction letoff . . . automatic letoff . . . multiple beam letoff . . . 30" beams . . . all purpose takeup . . . lower roll takeup . . . high roll takeup . . . multipliers . . . four shuttle sizes . . . one-shot lubrication . . . roller bearings . . . batwing picking . . . center filling fork . . . electric warp stop motion . . . mechanical warp stop motion . . . binder release.

C&K's W Looms weave finer fabrics, at higher speed and lower cost . . . as witnessed by the labels of leading woolen mills. And whether you weave woolens or sculptured carpets, the same thing can be said of the modern C&K Loom, shown below, which is designed to weave *your* cloth. *See C&K today!*

C&K's "Conference Corner"

As we go to press, we notice that a New York newspaper reports as follows: "INDUSTRY REJECTS EXCESSIVE ORDERS—Big Durable Goods Producers Send Back 'Panic' Requests, Ask They Be Trimmed — Allocations Are Feared."

That's the kind of stampede that leads not only to allocations, but may run far beyond, to government intervention and control. So it is gratifying to read in the textile press, the same week, that while there is definitely "an increased demand for textile machinery, *there is no panic or scare-buying on the part of the mills.*"

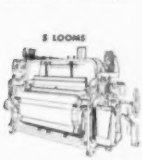
This is the safe and sane middle road, both for today and for the foreseeable future. In fact, it is the road of sure and steady progress in weaveroom-modernization, guide-posted by C&K for the last 25 years by this often-expressed principle: "EACH YEAR, REPLACE AT LEAST 10% OF YOUR LEAST EFFICIENT LOOMS."

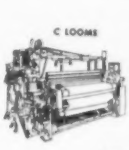
This program is neither too much nor too little, and will help to keep weaving machinery in an even and equable flow of supply to small and large mills alike. Get in touch with C&K today about the looms you need to keep *your* mill competitive.

...and a word about PARTS & SUPPLIES

It pays to keep this fact in mind: Interchangeable parts for *all* C&K Looms are available *only* from C&K. And this means *stock parts*, as well as the more commonly ordered items which are stocked in anticipation of your orders. It's good business to order all C&K Loom parts direct from the Loom Works. For then you can *always* be sure of getting *anything* you need.

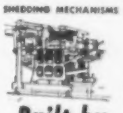
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics


S LOOMS

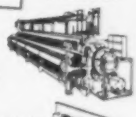

C LOOMS

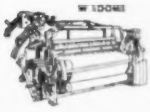
AXMINSTER LOOMS

PLUSH LOOMS


SHEDDING MECHANISMS

FELT LOOMS


NARROW-FABRIC LOOMS


W LOOMS

DUCK LOOMS

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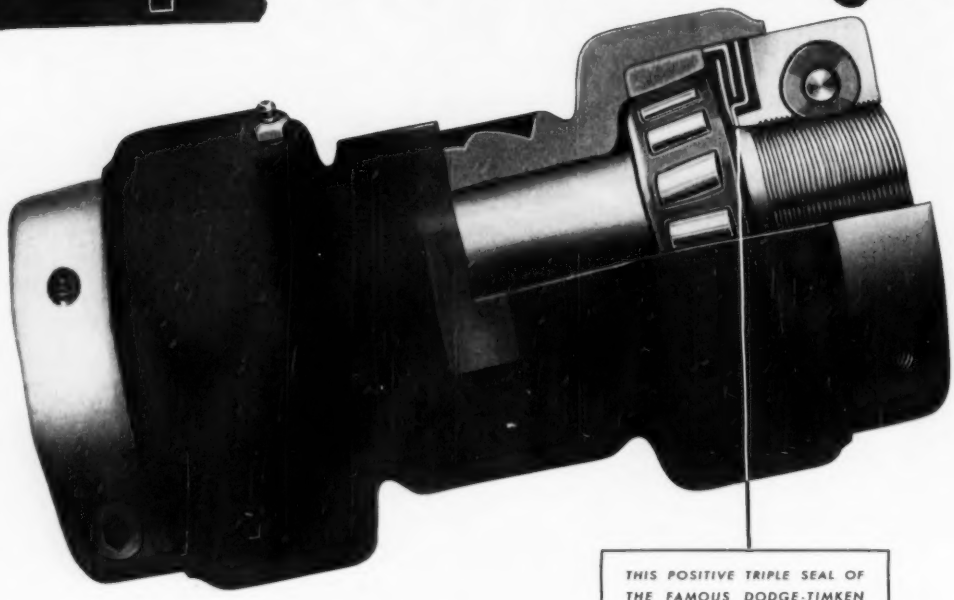
CROMPTON & KNOWLES LOOM WORKS

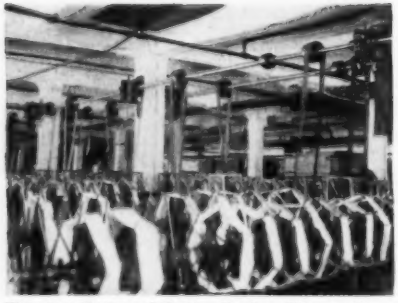
WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

Stops Oil Damage!



THIS POSITIVE TRIPLE SEAL OF THE FAMOUS DODGE-TIMKEN TYPE C BEARING ELIMINATES OIL DRIP...HERE IS THE IDEAL BEARING FOR TEXTILE MILL USE!



This installation of Dodge-Timken Hanger Bearings protects quality and profits. Special seals prevent oil leakage on the product, reduce "seconds." Bearings remain properly lubricated, saving labor.

IS OIL DRIP eating holes in your profits? To keep the lubricant where it belongs—*inside the bearing*—switch to Dodge-Timken. These famous bearings, noted throughout the world for quality, have proved themselves in millions of industry's toughest jobs.

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1400 Union Street • Mishawaka, Indiana

CALL A DODGE TRANSMISSIONEER. He's factory-trained to help solve your power drive problems. Look for his name under "Power Transmission Equipment" in your classified telephone directory.

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- Pneumatic tires — works anywhere indoors or outdoors.
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HYSTER KARRY KRANE is a terrific cost-cutter in lifting and moving heavy or bulky materials up to 10,000 pounds in weight.

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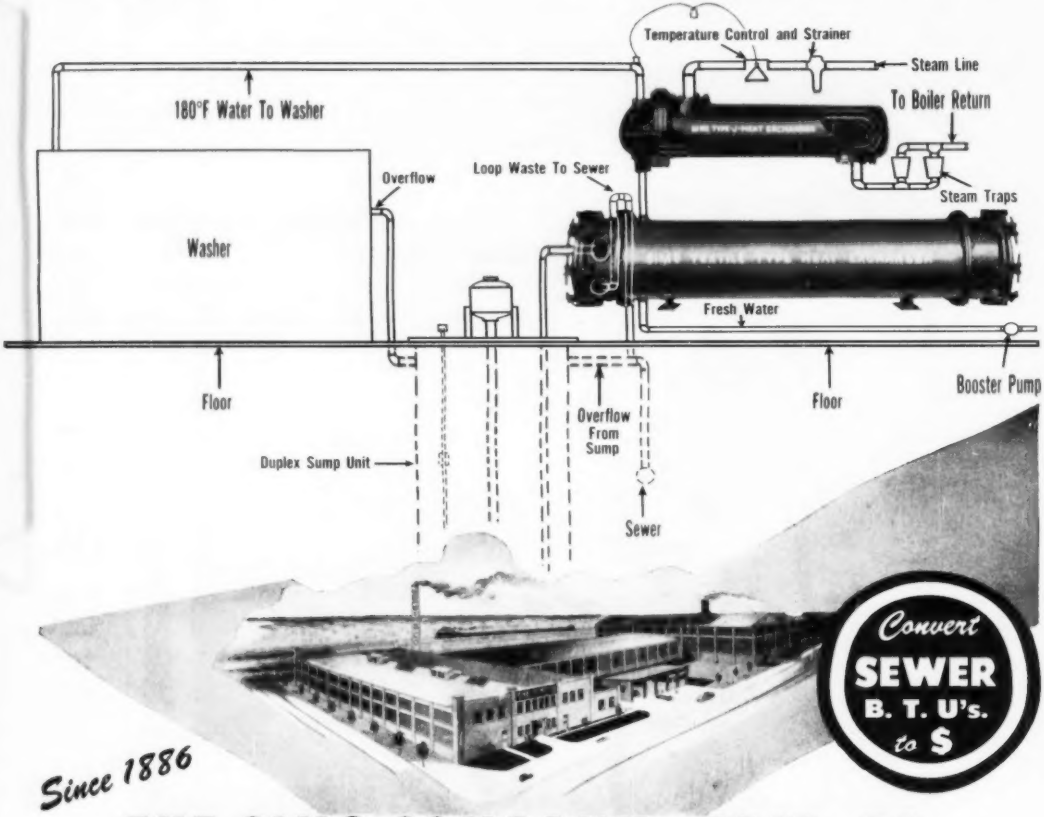
MILLS Show 70 to 90% Annual Return on Cost of SIMS Heat Recovery Systems . . .

Sims of Erie, Pa., heat recovery specialists, for 62 years have discovered a method of reclaiming valuable BTU's from linty contaminated textile open sewers. If your sewer water is over 120° F., you are wasting fuel enough to pay for this Sims System in a matter of months. Several textile plants show a 70 to 90% annual return on the first cost of their Sims Heat Recovery Systems.

One installation as shown below shows how 180° water is supplied to washers with a very minimum of steam required. Our nearest representative will be glad to survey the possibility of profitable heat recovery in your plant and make definite recommendations at no obligation to you. Consult with SIMS OF ERIE engineers today.

THE SIMS CO., BOX 1096T, ERIE, PENNA.



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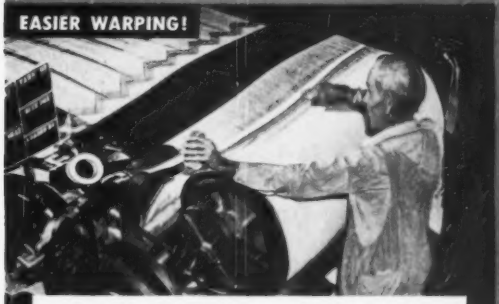
Manufacturers of Exhaust Gas Boilers · Heat Exchangers · Storage Water Heaters · Feed Water Heaters Steam Separators · Commercial Type Instantaneous Water Heaters · Oil Heaters · Quenching Oil Coolers Caustic Soda (Sodium Hydroxide NaOH) Recovery Equipment and Unit Type Coal Pulverizers

Permacel Tapes SLASH COSTS!

IN ALMOST EVERY PHASE OF TEXTILE MANUFACTURING!

EASIER WARPING!



TAPE PLACED on both sides of warp ends after warping or slashing . . . holds ends in parallel for faster, trouble-free weaving.

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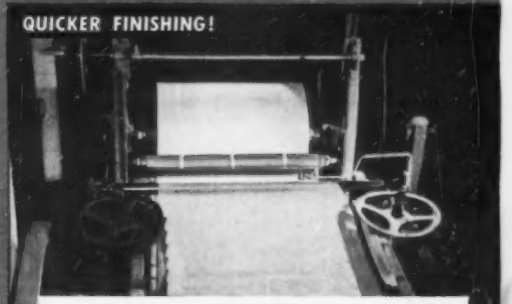
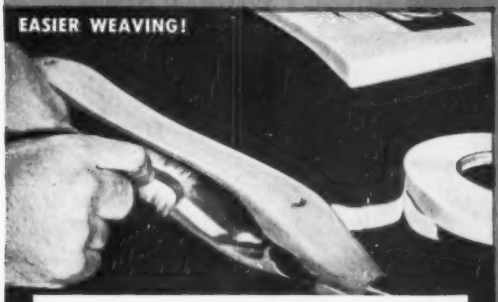


START FINISHED FABRIC on rolls faster, safer—with simple adhesive-side-up wrap of PERMACEL on Simpson Shell. Sure—economical!

EASIER WEAVING!



PERMACEL Double Faced Paper Tape holds opossum fur in shuttle. No mess—no gluing! Tape holds securely—easy to remove.

SAFER HOLDING!

PERMACEL holds last lap of cloth on roll after bleaching, drying, etc. Quick, holds fast—will not leave residue on cloth.

101 OTHER TEXTILE USES TOO!

Pressure sensitive tape is fast becoming a standard "tool" in the Textile Industry—for saving time and cutting costs—for doing 101 other jobs easier, and more efficiently.

Why not let our trained technicians help you start economical PERMACEL Tapes to work for *you*? Or, for free informative folder just drop a note to Dept. 14T at the address shown.

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doing this *costs more* now!

You do it less often

by using Dependable Quality

CRANE VALVES

That's why more Crane Valves are used than any other make

. . . this valve likes tough throttling jobs

—And for durable, maintenance-free service, it's typical Crane quality. The plug-type disc and seat construction in Crane No. 14½P's utilizes the toughest combination of metals found in 150-Pound brass valves. Extra wide seating surfaces give high resistance to damage by "wire drawing" or foreign matter. Crane disc taper is precisely correct for accurate flow regulation.

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Get out from under that OIL CAN!

Watch out! That oil can is full of grief. When you lubricate plain bearings everyday, a lot of oil splatters around. It doesn't take much to goo up machinery and put operations on the blink. And a few drops on moving parts soil and spot yarns and fabrics. ✓ ✓ ✓ You can step out from under this costly mess by replacing inefficient plain bearings with clean, *grease-lubricated* Fafnir Ball Bearing Textile Units. They need attention infrequently, cut maintenance to the bone. Sealed against leakage and contamination, they operate machines smoother, longer, at higher speeds. ✓ ✓ ✓ Your nearby Fafnir Distributor will be glad to help you select exactly the right Fafnir Bearing or Unit for your particular needs, no matter what they may be. The Fafnir Bearing Company, New Britain, Connecticut.

Rocker Shaft Unit
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Rack-combing Roll
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BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

and they have a better fabric, too

"It isn't just the production of 15 or more dozen pairs in 8 hours. They are getting better stockings too with the new Reading Machines."

• • •

The new "Reading" Machines are producing full-fashioned stockings of superior quality and at higher speeds than ever before possible. Many exclusive "Reading" features give higher precision and greatly simplified control in operation . . . 30 sections . . . 51 and 60 gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

The "READING" Full-Fashioned Knitting Machine

For more information, write direct or use Reader Service post card.

SERVICE TO THE OPERATING DEPARTMENTS is the keynote of the Durham Div. Lab of Erwin Mills. Percy Woodruff, Laboratory supervisor (right) and Hugh Flowers, cotton classer (center) listen to Willard Terrell—with Erwin 52 years—tell how he has seen the quality of machine-picked cotton improve. Percy helps Hugh pick the best mixes by running through the mill sample mixes of known standards. Together they check the spinability, weavability, cost, and mill performance.

Here's a MILL MAN'S LAB

Durham Div. Lab., Erwin Mills, Inc., doesn't just turn out reports.

- ***It has a realistic approach to mill problems***
- ***It helps the cotton buyer pick the best mix—from the standpoint of cost and performance in the mill***
- ***It helps other departments increase quality and reduce costs***
- ***It relieves supervisors of routine testing, checking quality, and keeping records***

By W. A. THOMASON, JR., Southern Editor, TEXTILE WORLD

CAN A LAB be of real help to the manufacturing division of a mill? After two years of having a physical-testing lab in their Durham, N. C. Div., Erwin Mills, Inc., says, "Definitely yes!" Carl Harris, vice president of Erwin, and W. V. Byers, manager of the Durham Div., agree that the lab has helped to improve operations in many ways. Here are some of the outstanding contributions of the lab so far.

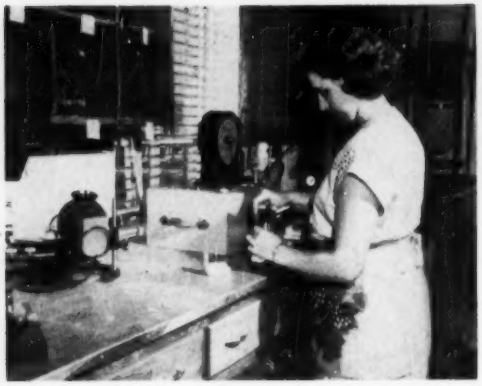
It has relieved supervisors of the duty of making routine tests and checking quality standards, and it has eliminated many of the records the supervisors had to keep. This service is possible because the man in the mill has confidence in the lab work—this lab works for the mill man and he knows it. It is not a high-powered theory organization.

Better mixes have been obtained through fiber-testing techniques. The lab assists the cotton department by experimenting with mixes of various cottons to try to improve the yarn strength. But strength is not the only consideration. For example, Percy Woodruff, laboratory supervisor, knows that if he runs a mix of longer staple length than that being used, he must reduce the yarn twist to get added strength. But what happens if the loom stops increase because of the lower density of the yarn? If the loom stops are out of line, that mix is out.

All departments of the mill work together for better conditions. The lab sets up tests, the manufacturing division runs the stock, and the standards department checks the performance. The lab then checks the results, and Percy tells the mill management and the cotton buyer how that particular mix ran.

Uncertainty as to the weight of finishing materials needed for a particular fabric has been eliminated. The gray goods are weighed at standard atmospheric conditions by the lab, so that the finishing man will have assurance that the gray fabric weight is O.K. before he finishes it.

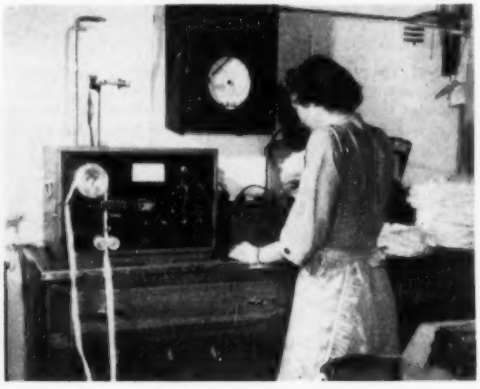
The trend at Erwin Mills is to employ as few beating points as feasible and let the cards do most of the cleaning. Neps are reduced, and yarn strength is thus increased.



***PRESSLEY TEST** is used to give fiber strength. Results of Pressley test, together with maturity and staple length of fiber, will indicate yarn strength the mill may expect. Marie Autry, making this test, likes to get a fiber break of 75,000 lb., but will pass the sample if it is above 70,000 lb.*

***SHEFFIELD MICRONAIRE** gives fiber fineness. Fiber-maturity data is obtained from the results of the Micronaire and Pressley tests. Within limits, mature fine fibers are desirable, because they will give the greatest strength. Marie knows that the samples she tests must be over 4.2 micrograms per inch or they will make neppy yarn.*

***SHIRLEY ANALYZER** shows the amount and type of waste. Erwin uses it as a guide to the opening and cleaning it must do for the sample being tested. Percy Woodruff tells W. V. Byers, manager of No. 1, 4, and 6 mills, "If a mill is on low-grade cotton, a Shirley Analyzer is one of the cheapest investments it can make."*



***INTEGRATOR** used with Uster tester automatically gives percent linear deviation of sample with respect to evenness, without tedious calculations. It gives a more accurate picture of uniformity than does maximum variation alone. Marlee Richardson, testing this sliver, says that the integrator is especially valuable for roving and yarn.*

Here's How Erwin Meets Its Quality Standards

Routine, periodic, and special testing is done by the lab. Items vital to the quality of the fabrics are tested regularly. Periodic checks are made on items which may affect quality to a lesser degree. Special tests are made when standard conditions are not met in routine or periodic tests. Erwin often has check tests and experimental work done by the School of Textiles, N. C. State College; U. S. Testing Co.; U. S. Dept. of Agriculture; and the Erwin Chemical Lab at Cooleemee, N. C.

Fiber Tests

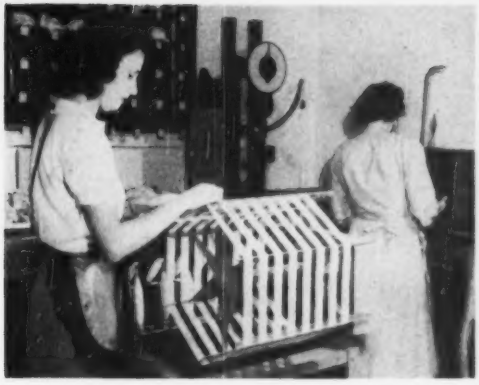
Sampling: One sample is taken from each bale each day.
Routine Tests: Fineness on Sheffield Micronaire.
Strength on Pressley tester.
Staple length and staple uniformity on Fibrograph (classer's length is used to a great extent rather than Fibrograph, because Erwin says that its classer gives results comparable to those obtained from the Fibrograph).
Waste content on Shirley Analyzer.
Special Tests: When suspicious bales are brought in, lab makes special tests for the cotton department.

Picker Laps

Sampling: One lap is taken from each picker each week.
Routine Tests: Weight per yard on Saco-Lowell lap tester.
Moisture regain on Brabender moisture tester.
Check on waste removed by picker on Shirley Analyzer.
Special Tests: If lap doesn't meet standards, another lap is taken from the same picker to see if just one lap was bad, or to see if the picker is doing bad work.

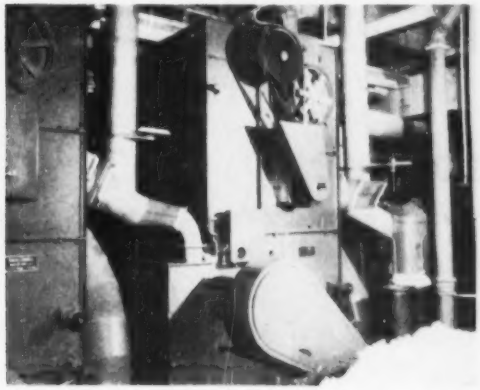
Card Web and Sliver

Sampling: Sample of web is taken during the middle of the first stripping cycle after grinding.
Sample of sliver is taken from each card in all card rooms at periodic intervals.

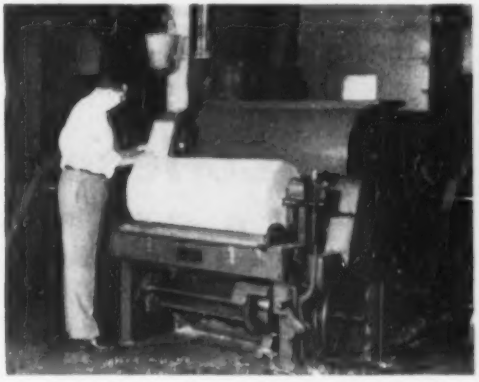


YARN STRENGTH for each of the yarns made in the Durham Div. is checked daily by Belle Turner. All samples are conditioned in the wall boxes in the background before they are tested. Here Belle is taking the skeins from the winder. She will put them on special rolling skein racks, which hold 50 skeins under uniform tension.

THE SUTER QUADRANT balance will give Belle Turner a direct reading of the yarn number. Peridically, yarns are tested on the Uster for evenness and are boarded for appearance. The results of the Uster evenness test are sent with the boarded samples to the supervisors concerned.



BY-PASSES for each machine in opening line have been built as a result of lab tests. Some mixes need opening and cleaning by only one lattice cleaner, some by two and some need a vertical opener as well. The trend at Erwin is to do the least amount of "beating" of the stock that will give the desired quality.



BLOWS PER INCH have been reduced on one picker from 102 to 62 by taking out one of the three beater sections. Percy Woodruff says that neps have been reduced and quality of yarn has been improved considerably as a result of this reduction in the number of blows per inch.

Routine Tests: Nep count of web with N. C. State template.
Periodic Tests: Sliver uniformity on Uster tester.
Sliver weight on grain scales.

Roving

Sampling: One bobbin is taken from each frame three times each week.
Three samples from each bobbin are tested.
Routine Tests: Roving size on grain scales .
Periodic Tests: Uniformity on Uster tester at least once each month.

Yarn

Sampling: Each yarn number is tested daily.
Routine Tests: Yarn strength on a Scott skein tester.
Periodic Tests: Uniformity on Uster tester frequently.
Samples are boarded to check appearance frequently.
Once each week length of tails on bobbins, length of bunch, and yardage on bobbins are checked.

Slasher Size

Sampling: Sample of warp from each slasher is taken each week.
Routine Tests: Percent size on yarn and moisture regain of yarn is checked in a Brabender semi-automatic moisture tester.

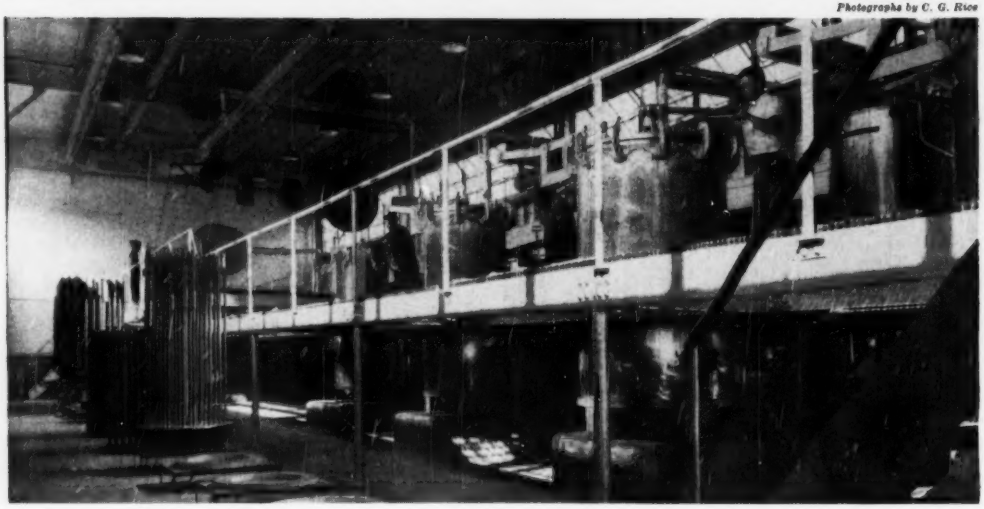
Gray Fabric

Sampling: One sample of each fabric style is taken daily.
Routine Tests: Weight, width, and fabric strength.
Grab test is used for strength.
Special Tests: If fabric does not meet standards in routine tests, construction is checked.

Finished Fabric

Sampling: One sample from each kier is taken each day.
Routine Tests: Weight, width, size content, and fabric strength.
Special Tests: If fabric does not meet standards in routine tests, construction is checked.

Photographs by C. G. Rice



ELEVATED WALKWAY of grilled iron-work enables operator to work tank lids at chest height. Man at upper right handles counter-weighted cover alone. Man in center is operating extended handle of four-way feed line valve to reverse flow of dye liquor. Monorail on elliptical ceiling track serves five pressure tanks, extractor, dryer, and loading area. At extreme left, spindle carriers are dropped into floor recess to facilitate loading of package.

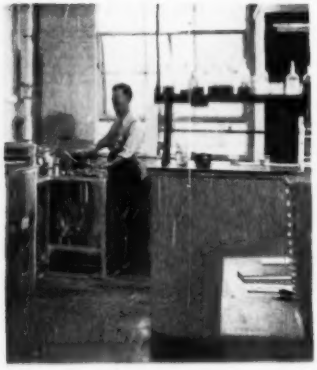
Crown College Improves PACKAGE-DYEING SYSTEM

- Monorail system reduces handling of dye packages
- Dye machinery and pumps are installed at floor level
- Machinery operators work from built-up half-deck walkway
- Dust-free filtered air is used in extracting and drying

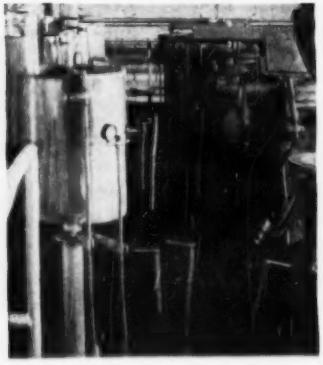
By CHARLES H. LEACH

THE NEW YARN DYEHOUSE at Crown College was designed to eliminate repetition in handling materials, to promote easy maintenance and cleanliness, and to avoid stoppage while unloading packaged yarn from dye machinery.

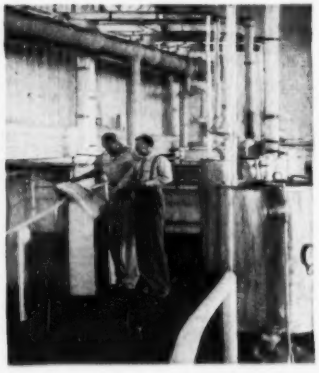
After studying package-dyeing sys-



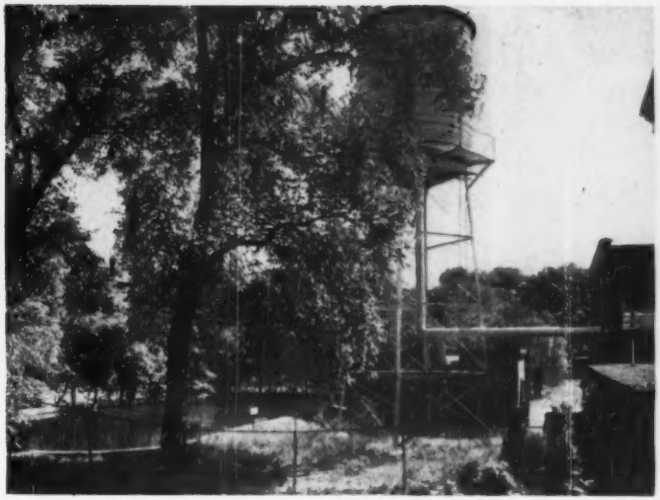
SINGLE-PACKAGE MACHINE is used to prove dye formulas worked out in beaker tests.



RODS PROTRUDING through grilled floor of walkway are extension handles of four-way valves on dyebath feed lines.

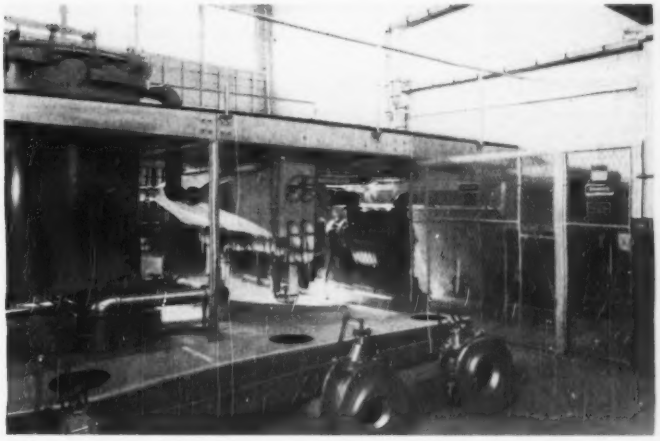


TYPEWRITTEN DYEING instructions, which are plotted in the laboratory, are given to operators with each dye lot.



RESERVOIR, filter house, and 20,000-gal. standpipe are new installations at Crown College. At extreme right of picture, the monitor roof of new dyehouse rises above original building. The roof of the dyehouse was raised to permit the installation of the elevated half-deck walkway.

THE 500-PACKAGE spindle carriers are lowered into floor recesses in order to bring the spindle tops shoulder high. Spindle carriers are moved by monorail system.



PRECIPITRON is used to clean the air electrostatically. Air is forced through pipes under the floor to the extractors and dryers. Gate valves at ports in the drying chambers control the flow of the air. The air cleaned by the Precipitron is 99% dustfree and dries the yarn from the inside of the package outward.

PACKAGE-YARN drying battery has five ports. Monorail has just dropped carrier on No. 4 port after removing it from extractor at upper right center.

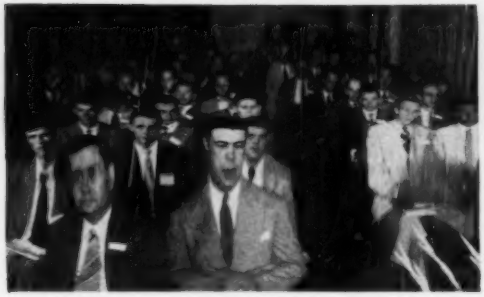
tems. John S. Dickson, director of engineering and purchasing for Crown and Wamsutta, and B. W. Ambler, manager of the yarn division at Crown, decided that the new Crown dye machinery would be placed on one level. There would be no trenches or pits with pumps, motors, and feedlines below floor level as was the case in most of the systems reviewed. Of the several makers of dye machinery investigated, the Morton Machinery Co., Columbus, Ga., came nearest to meeting the specifications of Crown's design.

IMPROVED LOADING. The placing and removing of yarn packages in the machines was the foremost operation demanding improvement. At Crown, the yarn packages are handled only twice, once on the spindles and later off the spindles when the yarn is dry. This minimum handling is achieved by the use of spindle carriers.

Spindles are set in a circular base in groups of 10, 30, or 50 to fit the different-sized dye vats. These carriers are loaded outside the vats. Each spindle will hold 10 packages of yarn, and when fully loaded, a carrier will hold 100, 300, or 500 packages of yarn. Carriers are so constructed that they are self-centering in the dye vats and extractor.

For loading, these carriers are lowered into recesses on the ground floor.

(Continued on page 227)



QUALITY-CONTROL MEN from all over the textile industry attended a meeting sponsored by Firestone Textiles, Gastonia, N. C. A permanent quality-control organization for discussion of problems and exchange of information by mills in the Carolinas is planned as a result of this meeting.

CHAIRMAN OF THE STEERING COMMITTEE which set up the meeting was F. H. Martin, Springs Cotton Mills, (center). Mr. Martin discusses the plans for the afternoon session with Elvin H. Bond, U. S. Rubber Co., (left), member of the committee, and H. L. Hutchinson, Dan River Mills, (right).

QUALITY-CONTROL MEN
Say, "We're Out of the Dark"

In a meeting at Firestone Textiles, Gastonia, N. C., qualty-control men from all branches of the textile industry agree that a lab built around a Uster evenness tester can—

- *Determine best processes, speeds, and settings for manufacturing yarn*
- *Locate sources of yarn unevenness by determining the frequency of defects*
- *Evaluate equipment-manufacturer and supplier claims on new items*

By W. A. THOMASON, JR.
Southern Editor, TEXTILE WORLD

"WE NOW HAVE AN evenness tester that will give us a scientific answer to our evenness problems. We don't have to rely on a man's opinion any more," said a quality control man. Clyde Moss, head of quality control, Firestone Textiles, Gastonia, N. C., thought the same thing of his Uster evenness tester.

Mr. Moss, however, realized that the machine had many potentialities that he and other lab men possibly did not know about. He got together with quality-control men from several other mills, and together they formed the steering committee of an organization to exchange information on use of the Uster tester as well as other lab equipment and techniques.

The steering committee is composed of the following men: F. H. Martin, Springs Cotton Mills, chairman; A. J. Smith and R. O. Barker, J. P. Stevens & Co.; R. C. Laughlin, Burlington Mills Corp.; J. J. Such, Kendall Mills; P. W. Woodruff, Erwin Mills, Inc.; Elvin H. Bond, U. S. Rubber Co.; George E. Archer, Uster Corp.; and Clyde Moss, Firestone Textiles.

Over 100 men were invited to attend a meeting which was held at Firestone on Sept. 8, 1950, for the purpose of discussing quality control through variation measurement. They came from the Carolinas, Georgia, Virginia, Alabama, Louisiana, Tennessee, Mississippi, Massachusetts, Pennsylvania, Texas, and Canada; and represented mills of all types. Here are the highlights of the meeting.

How Valuable Is Routine Testing?

Routine testing of stock in process is the key to uniform quality of yarn and fabric. The quality-control men pointed out many improvements in yarn evenness which have resulted from routine tests in their mills.

A Virginia mill man has increased the uniformity of card sliver by 10% by replacing gears in the coiler head. These worn gears were located after sliver in the can was found to have considerably more variation than sliver taken from the calender rolls.

This same mill man tests card sliver before and after grinding to check on the work of the grinders. He also had the draft of conventional spinning frames increased to 13 as a result of Uster tests.

Another mill man and a research man obtained identical results on Uster tests to determine best roll settings on drawing frames. They found that the best settings on breaker drawing for 1 1/16-in. SLM cotton are:

1 3/16 in.—back to third rolls
1 7/16 in.—third to second rolls
1¼in.—second to front rolls.

Slightly closer settings on the second drawing process were found to give best quality.

An eastern North Carolina mill found through Uster tests that worn draw-box gears in draw frames were causing most of their excessive sliver variation.

Defects Can Be Traced To Individual Rolls

Suppose customer complaints center on dye streaks in a fabric. The boss sends samples of the defective fabric to you in the lab and says, "Correct this." What are you going to do?

Before the Uster was available, the analysis of such defects was difficult

FROM GEORGIA *came Clyde Sheehan, (left), and W. A. Trawick, (right). Mr. Sheehan and Mr. Trawick, both with Bibb Mfg. Co., discuss the excellent results of the morning session with J. F. Lewis, (left center), and J. V. McGinnis, (right center), both of Rex Mills, Inc.*

LIVELY DISCUSSION *made the meeting an outstanding success. Talking over the excellent work being done by some of the mills are (left to right) E. N. Crow, P. E. Moran, and N. W. Kessell of P. H. Hanes Knitting Co.; Nelson Kessell, Firestone Textiles; and Bill Conlon, H & B American Machine Co.*

and required extensive time-consuming tests. With the Uster, a South Carolina quality-control man says it's easy.

First, unweave the fabric and board the warp or filling—whichever shows the streaks. The approximate cycle of unevenness shown here will help you set the Uster at the proper speed for material and chart.

In other words, you would want a considerably faster chart speed for a defect every 1000 in. than one every 3 in. Then run the yarn on the Uster tester to see the pattern and frequency of defects on the chart. Convert the distance on the chart to inches in the yarn. You can then determine the exact source of trouble by draft calculations.

For example, if a defect occurred in every 3 in. of yarn, the trouble would normally be at the front rolls of the spinning frame, because that is the only place where a cycle is completed in approximately every 3 in. of yarn. If several defects are present, each must be isolated and treated separately.

As a further example, a mill found defects approximately 3,175 in. apart in the yarn. To locate the source of these defects, the quality-control man had to find the point at which one cycle would be represented in approximately 3,175 in. of spun yarn. The machines and drafts used in the manufacture of this yarn were as follows:

Card—draft of 121

Breaker drawing—draft of 5.9 (6 ends up)

Finisher drawing—draft of 6 (6 ends up)

Long-draft roving—draft of 24

Spinning—roll draft of 18 (double creel)

Spinning—contraction of 5%

Calculating back, the inches delivered divided by draft is equal to inches fed. When this answer is approximately equal to the circumference

Here's How You Can Check and Adjust Your Ulter Calibration

1. Black-Mark Adjustment:

Turn tester off. Needle should lie on the black mark. If the needle is off greater than its width, you can adjust it with the black screw on the needle shaft.

2. Minimum Position Adjustment:

Turn tester on, and allow it to warm up for 10 min. Put the range switch on 100%. Turn adjustment knob until needle is on minimum point. This point should be from 95 to 100%. To adjust on Models A and A-2, slide the machine out of the cabinet, and turn the screw on the potentiometer which is on the right side. On Models B and A-3, the cabinet has a hole in the side, through which you can make the adjustment.

3. Recorder Zero Adjustment:

Turn tester on, and warm it up for 10 min. Put the range switch on 100%. Turn adjustment knob counterclockwise until needle is on zero. Turn recorder on to be sure it is on zero. The line on the chart should stay on zero. If it is off, the adjustment is made by turning the rod screw on the side of the recorder.

4. Bias Voltage Adjustment Check:

Turn tester on, and warm it up for 10 min. Turn adjustment knob counterclockwise until it is on zero. Set range switch on 100, then 50, 25, and 12½%. Needle should be on zero each time. If it reads less than 30% on the 12½% scale, this adjustment is within satisfactory limits. If it is greater than 30%, a service man should be called.

* * *

of the rolls or part at the point of calculation, the source of trouble is reached.

$$\frac{3{,}175}{0.95 \times 18} = 185.5 \text{ (couldn't be at spinning frame)}$$

This means that 185.5 in. of roving would make 3,175 in. of yarn.

$$\frac{185.5}{24} = 7.72 \text{ (couldn't be at roving frames)}$$

This means that 7.72 in. of finisher drawn sliver will make 3,175 in. of yarn.

$$\frac{7.72}{6} = 1.29 \text{ (defect is probably caused in finisher drawing)}$$

The calender rolls of the breaker drawing are greater than 1.29 in. in circumference; and, therefore, one cycle of the calender rolls would give a defect about 6 in. apart, unless the rolls were grooved or otherwise damaged in several places. The drafts in the finisher drawing are:

Calender rolls to front rolls—1.02

Front rolls to second rolls—2.5

Second rolls to third rolls—1.9

Third rolls to fourth rolls—1.24

Therefore: $\frac{7.72}{1.02} = 7.59$ (couldn't be at front rolls)

The diameter of the front rolls is 1¼ in. (cir., 3.54 in.). If the front rolls were causing the trouble, the inches fed at this point would normally have to be approximately equal to the circumference.

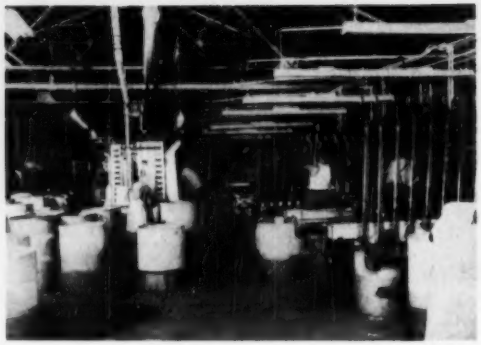
$$\frac{7.59}{2.5} = 3.02 \text{ (must be at second rolls)}$$

Now we are getting down to fine points. The second rolls are also 1¼ in. in diameter. Therefore, one revolution of a defective second roll would normally cause a defect every 3.54 in. Our calculations show that 3.02 in. of stock at the second rolls will make 3,175 in. of yarn, and remember that we have a defect every 3,175 in. of yarn. It is therefore obvious that the second roll would be the place to look for the trouble. The difference between 3.02 and 3.54 is probably caused by the removal of yarn from the fabric, and a small error in reading the Uster chart.

You can't expect your calculations to be exactly accurate, but here they

(Continued on page 210)

1. *TW: "What? An inspection before you start processing?"* **.** *SHULTZ: "Yes, we inspect all gray stockings after we get them from the manufacturer and before we do any finishing. We send a report form that I'll show you later to the manufacturer. This report gives him an objective check on his inspection and protects us at the same time."*



2. *TW: "Nice boarding room."* **.** *SHULTZ: "We think so. The tile floor and white tile walls keep it clean-looking. We have modern equipment, and we handle the stockings in large round boxes covered with cloth to prevent snagging."*

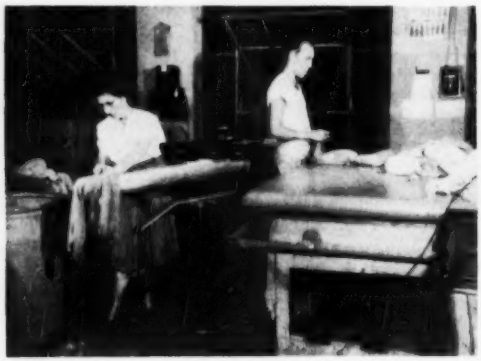
CAMERA TOUR:

Take A Trip Through The HANS BICK PLANT

► Here's a commission hosiery finisher that gets a big production out of a small dyehouse and takes steps all along the line to insure top-quality processing.

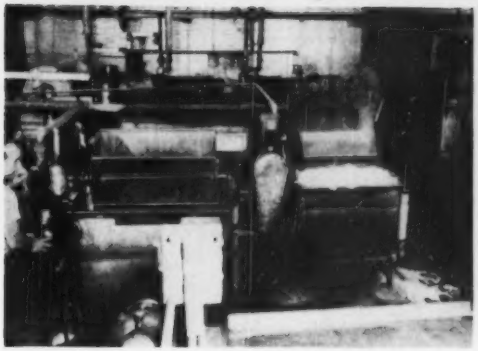
TAKE A CAMERA TOUR with one of TW's editors through a top-quality hosiery-finishing plant—Hans C. Bick Co., Inc., Reading, Pa. Tour is conducted by Paul Shultz, sales manager of the company's hosiery division.

It was at this plant that the Nylonizing process was developed [TW, Sept. '50, p. 118] for making nylon absorb moisture instantly. Here also, 12,000 doz. pr. of hosiery are dyed daily in a surprisingly small dyehouse running at peak efficiency. Quality checks are made all along the line to insure that finishing remains at peak quality from start to finish, and reports are made out all along the line for both the plant and the customer.

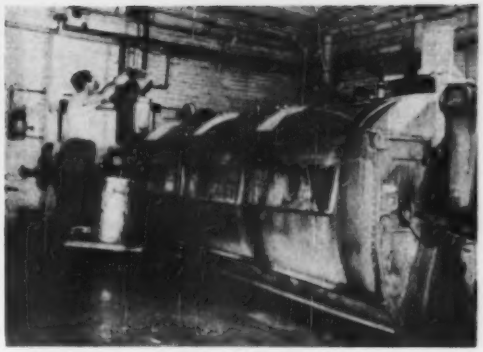


3. *TW: "What's she doing at that trough?"* **.** *SHULTZ: "We load all our hosiery into bags flat. We get better results that way than if the stockings are balled and thrown in. The trough is a jig we made to make the flat loading of stockings in the bags easier."*

4. *TW: "Do you mix your colors in here?"* **.** *SHULTZ: "Yes. The dye components are carefully weighed out in this room which is closed off from the dyehouse. The dyes leave here in liquid form, never as powder which might blow around and change the formulas and contaminate other dye baths."*



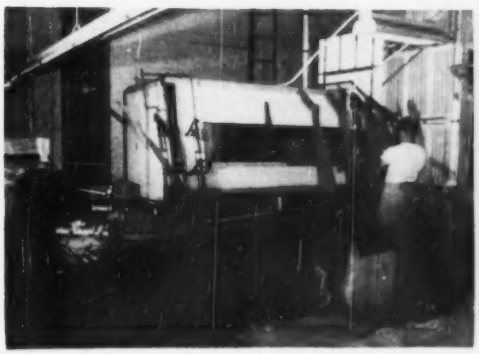
5. *TW: "Not a very big dyehouse for the work you handle."*
SHULTZ: "No, it's not big, but it sure is efficient. We process 12,000 dozen pairs here every day. We think two factors account for it —we encourage shipment of large batches so every machine can run at full productive capacity; and we have a chief dyer who's a top-notch production man and who really helps keep the machines rolling."



6. *TW: "Another process after dyeing?"*
SHULTZ: "Yes. That's the machine in which we do the Nylonizing process described in the September TEXTILE WORLD (p. 118). The emulsified type-8 nylon solution that we bond to the nylon hosiery makes it more moisture-absorbent. It's a permanent finish that lasts the life of the stocking."

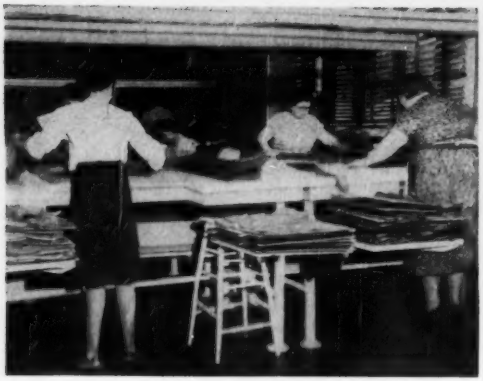
7. *TW: "What goes on here?"*
SHULTZ: "This is a control laboratory where Mr. Patt, our chemist there, keeps tabs on dye formulas and scouring efficiency."

8. *TW: "Do you use that Color-Eye instrument to match shades?"*
SHULTZ: "Yes, we check a certain number of stockings out of every batch against a master standard stocking to see if the color matches. If the color is off over 10% on either the red, blue, or yellow, the lot is redyed."

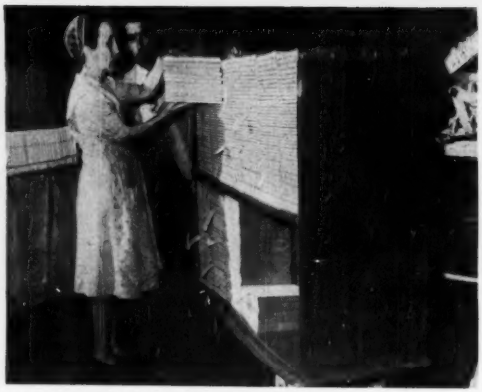


9. *TW: "Proctor & Schwartz final-boarding machines?"*
SHULTZ: "That's right. We're rather proud of our modern equipment. Everything we have is up-to-date, and we're putting in new equipment all the time, including some Paramount Paramold 33 vertical retorts in the pre-boarding."

10. *TW: "Are those trucks stainless steel or aluminum?"*
SHULTZ: "Aluminum—it makes a lighter truck to push around. We made those trucks here. That ticket sticking out follows the batch through the plant, and stockings are counted into and out of each department. If we lose any, the ticket tells us where to look."



11. *TW: "Those pairing tables look well lighted."*
SHULTZ: "They are. We designed those tables, too, and made them in our own machine shop."



12. *TW: "Did you make that truck, too?"*
SHULTZ: "We sure did. It's designed to hold a certain number of boxes and prevent them from falling off. We do the boxing and stamping here too, and box the hosiery any way the customer wants."

TW: "Are these the forms you use?"
SHULTZ: "That's right. The 'greige hosiery inspection form' is the one we use at the first inspection. We also make fit and check reports, length analyses, pairing breakdowns, and a test report."

GREIGE HOSIERY INSPECTION REPORT

OPER. _____ DATE _____

FORM NO. 670 A

CUSTOMER	DATE REC'D	SIZE	STYLE	LOT OR ORDER NO.	OUTSIDE SNAGS	INSIDE SNAGS	END OR FOOT EYE	HOLES	RUNS	KNOTS	OPEN SEAMS	DROPS	REMARKS	DOZEN EXAM	NUMBER DEFECTS	%

HANS C. BICK, INC.
READING, PA.

FINISHED LENGTH ANALYSIS

DATE _____

CUSTOMER _____ LOT NO. _____ COLOR _____ STYLE _____

	8	8½	9	9½	10	10½	11	DOZ.	REMARKS
28½									
29									
29½									
30									
30½									
31									
31½									
32									
32½									
33									
33½									
34									
34½									
35									
35½									

HANS C. BICK, INC.
READING, PA.

BREAKDOWN PAIRING REPORT

DATE _____

CUSTOMER _____ STYLE _____ COLOR _____

FORM 670 1M 11-49

	8	8½	9	9½	10	10½	11	TOTAL DOZ.	%
FIRST QUALITY									
IRREGULARS									
SECONDS									
THIRDS									
ODDS									
SEWERS									
RE-DYES									
TOTAL DOZEN									
MENDERS									
REMARKS									

HANS C. BICK, INC.
READING, PA.

LENGTH AND FIT CHECK REPORT

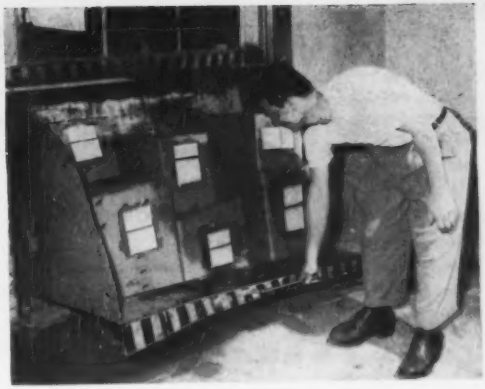
CUSTOMER _____ DATE _____

FORM 674 2½M 1-48 STYLE _____

SIZE	LENGTH BEFORE PRE-BOARDING	LENGTH AFTER PRE-BOARDING	AVERAGE LENGTH	HEEL SPLICING LENGTH	AVERAGE HEEL SPLICING LENGTH	FOOT SIZE FIT

REMARKS

13. *TW: "Tape on shipping boxes?"* *SHULTZ: "We found that gummed, self-sealing tape supports the box as well as steel strapping and doesn't cut through the box and damage the inner boxes and hosiery when the box gets rough handling."*



14. *TW: "Neat trick."* *SHULTZ: "We think it's a good idea. The chute seals the wall opening while you're loading it, then the bottom surface seals it again while boxes are being unloaded on the outside onto a truck."*

HANS C. BICK, INC.

COMPLETE TEST REPORT

CUSTOMER_____ DATE_____

STYLE_____ GAUGE_____

CONSTRUCTION: WELT_____DENIER MAIN_____DENIER

SPLICING_____DENIER LUNOMETER READING_____C.P.I.

SNAG TEST: Samples were tested by the DuPont Sandpaper Method_____square inches used for testing space. There were_____snags recorded and the average results obtained was_____ per square inch. The listed criterion is excellent for under 0.5 snags per square inch.

STRETCH TEST: Test was made on a DuPont Stretch Testing Device, with the following results:

Welt_____ Ankle_____ Instep_____ Foot_____

The minimum standards for stretch testing are:

Welt	11½ in. to 13½ in.	12½ in. perfect
Ankle	6 in. to 7½ in.	
Instep	7½ in. to 8 in.	
Foot	6 in. to 7½ in.	

BURSTING STRENGTH TEST: The bursting strength test was determined on a hand driven Mullen Tester, and the results are as follows:

Welt_____ Shadow Welt_____

Boot_____ Splicing_____

ABRASION TEST: The tests for resistance to abrasive wear at the toe and heel caps were made by mounting the samples over a metal surface and causing them to oscillate back and forth in contact with a wearing surface of special hosiery abrasive fabric held under six pounds of tension.

Results: The number of strokes necessary to wear holes in the toe caps and heels.

Toe_____ Heel_____

The minimum standard for women's hosiery is 1500 single strokes

HOSIERY FLEXING TEST: The stockings were tested for their fitting qualities and stretch durability on a Frazier Flexing Machine. The welt, shadow welt, and knee portion of the boot are repeatedly distended from a circumference of 12.5 inches to 22.5 inches for 42 - 66 gauge hosiery. The hosiery is then flexed until failure or 2000 cycles which is considered satisfactory stretch durability.

Stretch Durability_____ Rating_____

CONCLUSIONS:

7 Questions and Answers About VINYON HH STAPLE

Vinyon HH staple has many unique properties; it . . .

. . . Retains strength when wet

. . . Elongates under stress and contracts under heat

. . . Has ability to soften, shrink, and bond to other fibers

. . . Gives added strength and greater shrinkage in MST type

. . . Can be spun on cotton or woolen system

By HOWARD E. SHEARER

Textile Research Dept., American Viscose Corp.

1. What Can I Make From Vinyon HH Staple?

Vinyon HH staple has an outstanding ability to soften, shrink, and bond to other fibers under pressure in the presence of heat and certain solvents. The ability to shrink, either alone or in combination with other fibers or yarns, is used in the manufacture of such articles as embossed carpets and rubber-coated elastic fabrics. The ability to bond to other fibers is successfully used in the manufacture of pressed felts, bonded fabrics, and heat-sealable papers.

Spun-Vinyon yarns may be woven into filter fabrics of good chemical resistance and of superior filtering ability. The yarns are also used for heat-sealing purposes and for other purposes where their shrinkage or contractual properties are of value.

The new MST type of Vinyon HH staple has a higher strength (0.8 g.p.d.) than the regular UST type (0.6 g.p.d.). The MST type may thus be expected to spin more easily and produce more uniform yarn than the UST type.

On the cotton system, 100% Vinyon HH yarn as fine as 20s has been

These Fiber Properties . . .

Resistance of Vinyon HH to H_2SO_4

Temperature °F.	Maximum acid concentration without noticeable chemical action
77	95%
135	80%
158	75%
176	65%

VINYON RETAINS its fibrous formation above the acid-reaction point rather than to become a gummy mass. Above reaction point, however, color of Vinyon HH is affected. It changes to a gray to black color.

Effect of Heat on Vinyon HH Staple

Softening	125° - 140° F
Shrinkage Temperature	140° - 150° F.
Tacky Temperature	185° - 215° F.
Melting Temperature	275° - 300° F.

EFFECTIVE SHRINKAGE and tacky temperatures of vinyon are usually well above the initial range shown in this table. The effects are influenced by amount and form in which Vinyon HH staple is present.

Effect of Heat on Vinyon HH Shrinkage

Temperature °F.	% Shrinkage UST type	% Shrinkage MST type
140	0	0
160	18	—
165	27	—
175	45	60
185	50	—
195	55	—
212	60	75
230	65	—
250	70	—
270	melting range	

OF GREATER INFLUENCE than pressure is the temperature at which the material is pressed. Here is an illustration of the effect of bonding temperatures on the strength of rayon-Vinyon fiber mats.

Effect of Temperature on Vinyon Bonding of Carded Rayon Mats

Temp. °F.	Thickness mils.	Density g/cc.	Wt. per sq. yd. in oz.	Strength lb.
194	13	0.44	4.3	2
203	13	0.43	4.2	5
212	10	0.55	4.1	10
230	11	0.51	4.2	15
257	12	0.63	5.7	25
275	12	0.47	4.2	63
194	13	0.47	4.6	14
203	14	0.48	5.0	19
212	11	0.56	4.6	25
230	10	0.69	5.2	35
257	7	0.70	3.7	45

NEW MST-TYPE VINYON HH staple has greater shrinkage than regular UST type. Table shows a comparison of the effect of temperature on shrinkage of both types.

spun experimentally; but blending with 25 to 50% cotton or rayon is recommended. The finest count spun in 50/50 blends with cotton has been 25s.

On the woolen system, 2½- and 5-run Vinyon HH yarns of acceptable strength and quality have been spun on a commercial scale. Spinning Vinyon on the woolen system presents fewer problems than on the cotton system. The low strength, high extensibility, and static of Vinyon give trouble on the cotton system.

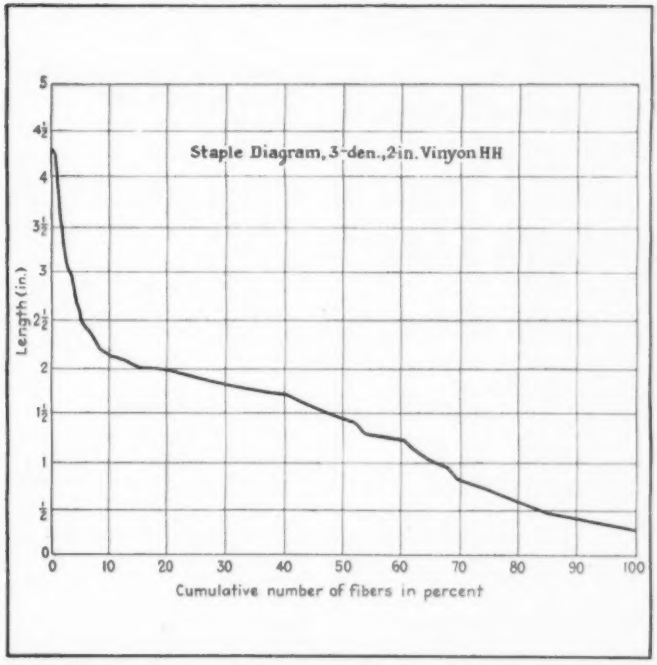
2. *What Is Vinyon HH Staple and How Is It Made?*

Vinyon HH staple is a synthetic fiber spun from a solution of copolymerized vinyl chloride and vinyl acetate. As staple, it has varied uses because of its many unique properties. While the UST Vinyon HH staple has been on the market for some years, the MST type of Vinyon HH staple is currently being introduced by American Viscose Corp.

The raw material for Vinyon HH staple is a thermoplastic copolymer of vinyl chloride and vinyl acetate. Polyvinyl chloride alone is a hard, tough, water-white resin. For extrusion purposes, the resin must be plasticized because it has a low decomposition temperature and decomposes as it softens. Polyvinyl acetate, on the other hand, is a clear resin of good acetone solubility which softens at a few degrees above room temperature. While mixtures of these polymers have not displayed particularly promising properties, resins produced by the simultaneous polymerization of mixtures of the monomers exhibit several remarkable characteristics.

Outstanding among the characteristics of the resin from which Vinyon HH is spun are: exceptional water resistance; high resistance to acids and alkalis; and insolubility in gasoline, mineral oils, alcohols, and glycols. As the copolymer is internally plasticized by the vinyl acetate, no added plasticizer is needed to spin from the dope a soft flexible fiber, of specific gravity 1.34 to 1.36, possessing desirable heat-sealing and bonding properties.

. . . Plus These Staple Characteristics . . .



STAPLE DIAGRAM of 3-den., 2-in. Vinyon HH staple shows that considerable variation in staple length may be expected. This variation is due to the ease with which the fiber elongates under stress and contracts under heat.

3. *How Does It Behave?*

Chemical Resistance—Vinyon HH staple has excellent resistance to attack at room temperatures by concentrated acids such as sulphuric, nitric, hydrochloric, or even aqua regia. It is resistance to 30% caustic soda or potash solutions and to 28% ammonium hydroxide. Salt solutions and cupramonium solutions have no effect on it. Alcohols, glycols, or aliphatic hydrocarbons such as gasoline and mineral oils do not attack it.

On the other hand, it is dissolved by ketones and softened or partly dissolved by esters, ethers, aromatic hydrocarbons, and some amines and halogenated hydrocarbons. At elevated temperatures, mineral acids may char and embrittle the fiber.

Effect of Moisture, Fire, and Electricity—One of the most important properties of Vinyon HH staple is that it is practically as strong when wet as when dry. The fiber is actually water repellent, as it absorbs less than 0.1% moisture. However, it may be surface wetted by various wetting agents. Another important property is that it will not support combustion. Still another is that it will not mildew; as bacteria, mold, and fungi will not grow upon it. It is a poor conductor of electricity; it has a dielectric strength of 650 v. per mil.

Effect of Heat—As previously stated, Vinyon HH staples will soften, shrink, and bond to other fibers under pressure in the presence of heat and certain solvents. There is no distinct temperature at which these changes take place, and some variation will be noted under different conditions of processing and use. The time and type of heating, as well as the temperature, will affect the bonding or sealing and the shrinking. In all cases, some pressure is required to bond effectively Vinyon HH either to itself —unless melted—or to other fibers.

Factors Affecting Shrinkage—Being a thermoplastic fiber, Vinyon HH is repeatedly softened upon the re-application of heat; and, if unrestrained, will exhibit considerable shrinkage. Likewise, with each succeeding application of an increased amount of heat, additional shrinkage takes place up through its melting range.

If the Vinyon either by itself or in blends with other fibers in the form of a fiber mat, yarn, or fabric is subjected to heat, restraining forces resist the free movement of the Vinyon; and the shrinkage may be appreciably

. . . Yield These End Product Results

Effect of Vinyon HH Content on Strength of Bonded Rayon, Cotton, and Wool Mats

Blend	Direction	Thickness mils	Density g/cc.	Wt. oz./sq. yd.	Tensile lb.
5% Vinyon — 95% Rayon	M.D.*	14	0.40	4.2	7.2
5% Vinyon — 95% Cotton	M.D.	16	0.38	4.6	2.4
5% Vinyon — 95% Rayon	C.D.†	16	0.40	4.8	7.1
5% Vinyon — 95% Cotton	C.D.	16	0.35	4.2	1.6
10% Vinyon — 90% Rayon	M.D.	14	0.44	4.6	18.9
10% Vinyon — 90% Cotton	M.D.	15	0.38	4.3	6.3
10% Vinyon — 90% Wool	M.D.	13	0.53	5.2	4.0
10% Vinyon — 90% Rayon	C.D.	13	0.44	4.3	16.0
10% Vinyon — 90% Cotton	C.D.	15	0.38	4.3	3.7
10% Vinyon — 90% Wool	C.D.	13	0.50	4.9	2.7
15% Vinyon — 85% Rayon	M.D.	13	0.38	3.7	40.8
15% Vinyon — 85% Cotton	M.D.	15	0.38	4.3	10.3
15% Vinyon — 85% Wool	M.D.	11	0.63	5.2	11.7
15% Vinyon — 85% Rayon	C.D.	12	0.43	4.0	27.0
15% Vinyon — 85% Cotton	C.D.	15	0.34	4.4	5.8
15% Vinyon — 85% Wool	C.D.	11	0.63	5.2	8.4
25% Vinyon — 75% Rayon	M.D.	12	0.47	4.0	63.1
25% Vinyon — 75% Cotton	M.D.	15	0.41	4.6	27.7
25% Vinyon — 75% Wool	M.D.	9	0.74	5.1	27.8
25% Vinyon — 75% Rayon	C.D.	12	0.54	4.7	49.0
25% Vinyon — 75% Cotton	C.D.	15	0.42	4.6	19.3
25% Vinyon — 75% Wool	C.D.	10	0.70	5.0	20.3

* M.D. — Machine Direction
† C.D. — Cross Direction

STRENGTH OF BONDED MATS will depend on the adhesion of Vinyon to the other fiber, as well as the strength and amount of other fiber in the blend.

Strength of Vinyon HH Content Spun Yarns

Fiber	Yarn size	Lea skein break	Single-end break
3/1½ ** Vinyon HH (MST)	14/1 c.c.*	36 lb.	5.5 oz.
3/1½ Vinyon HH (UST)	15/1 c.c.	31 lb.	4.2 oz.
3/1½ Vinyon HH (UST)	20/1 c.c.	21 lb.	3.3. oz.
50% Cotton 50% 3/1 Vinyon HH (UST)	25/1 c.c.	47 lb.	7.0 oz.
50% Cotton 50% 3/1 Vinyon HH (UST)	24/2/6 c.c.	—	7.2 lb.
85% 1½/1 9/16 Viscose 15% 3/1½ Vinyon HH (UST)	25/1 c.c.	53.5 lb.	8.2 oz.
85% 1½/1 9/16 Viscose 15% 3/1½ Vinyon HH (UST)	25/2/4 c.c.	—	6.2 lb.
25% Cotton 75% 3/1 Vinyon HH	25/1 c.c.	24 lb.	4.0 oz.
25% 1½/1 9/16 Viscose 75% 3/1½ Vinyon HH (UST)	15/1 c.c.	56 lb.	7.7 oz.
90% 64s wool 10% 3/1½ Vinyon HH (UST)	5 run w.c.†	—	8.4 oz.
80% 64s wool 20% 3/1½ Vinyon HH (UST)	5 run w.c.	—	8.4 oz.
3/2 Vinyon HH (UST)	5 run w.c.	—	6.3 oz.
100% 64s wool (control)	5 run w.c.	—	8.9 oz.
3/2 Vinyon HH (UST)	2½ run w.c.	—	11.6 oz.

* c.c. — cotton count
† w.c. — woolen count
** First figure is denier; second, length. Example: 3/1½ is 3 den., 1½ in.

SPUN YARNS of Vinyon HH and other fibers show effect of type and amount of other fiber in blend. This table shows typical examples of results obtained in tests.

decreased. If blended with wool and subjected to felting which shrinks and compresses the wool, the shrinkage of the Vinyon may approach a maximum. On the other hand, if the Vinyon is blended with other fiber, spun into yarn, and woven, the restraining force of the other fibers in the yarn or fabric may greatly retard the amount of shrinkage.

Little force is exerted by the UST Vinyon HH fiber in shrinking. When maximum shrinkage is desired and some restraining forces are present, the use of MST Vinyon HH staple is suggested.

The shrunken and cooled fibers show an increase in stiffness or loss of softness and flexibility that is related to the temperature and compressional force to which they have been subjected. This stiffening is usually slight and is removable without injury to the fiber by flexing the material if its tacky temperature has not been exceeded.

Physical Properties–

Specific gravity, 1.34 to 1.36
Strength, 0.8 g.p.d. for MST type and 0.6 g.p.d. for UST type
Elongation under stress
Contracts under heat
High extensibility

4. *What Denier and Staple Lengths Are Made?*

The deniers and staple lengths being supplied are:

2 den.–¾ to 5 in.
3 den.–¾ to 5 in.
5.5 den.–¾ to 5 in.

Since the fiber is also used in the paper industry in unopened form, the textile user must be sure to get opened staple. Staple for textile uses has received preliminary opening at the time of manufacture, as it has been found exceedingly difficult to open this fiber adequately in the textile mill.

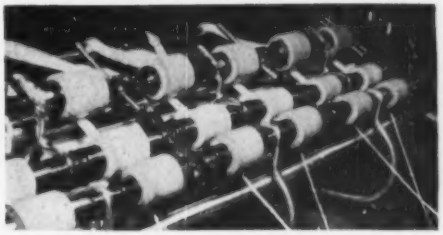
5. *How Is It Bonded?*

Bonding Conditions–Some pressure is essential to create a bond between the Vinyon and other fibers whether they are in yarn, mat, or fabric form. This pressure may vary from contact and a few pounds per square inch in low-density materials or where strength is unimportant to several thousands pounds per square inch for high-density, higher-strength items. Pressures of 100 psi. to 300 psi. afford a good working range for bonding fibrous-web materials and fabrics of 2 to 5 oz. per sq. yd.

The data given in accompanying tables afford a useful guide as to how changes in the Vinyon HH content

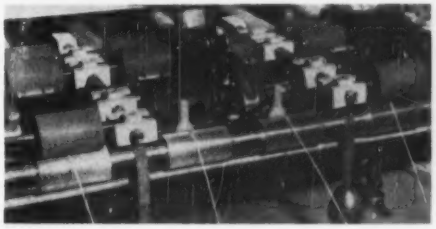
(Continued on page 224)

Nylon Plastic at the Atlantic City Show . . .

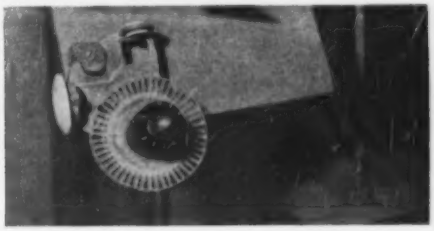


SADDLES AND CAP BARS with a nylon-plastic bearing insert were seen on a Saco-Lowell roving frame.

NYLON PLASTIC CONDENSERS were in use on a Saco-Lowell Shaw drafting system.



YARN GUIDES on this Whitin worsted roving frame are of nylon plastic.



THE YARN PULLEY on the new GE magnetic tension is of nylon because of nylon's resilience.

A TEXTILE EQUIPMENT NEWS FEATURE

Where Can Your Mill Use NYLON PLASTIC?

This new material is light, tough, flexible; requires no oil in many cases; is quiet-running; is easy to mold at a fraction of the cost of machining; has low deformation under load; and other unique properties. Here's a review of its present uses and performance, its properties and possible uses, and some dope on how to try it.

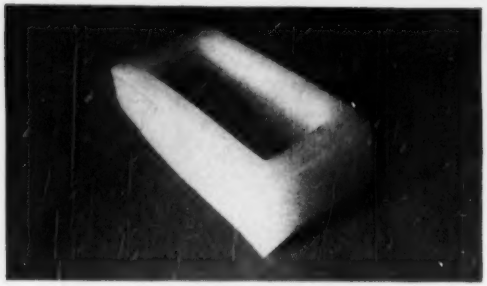
You'll Be Seeing More of Nylon Plastic

HERE'S A PLASTIC MATERIAL that's going places in this textile industry! Nylon plastic is already cutting costs in many textile mills; and at the recent American Textile Machinery Exhibition in Atlantic City, nylon plastic was seen as standard equipment on many machines and in experimental use on many others. Other applications, some of which are described here, are being originated by mill engineers and mill mechanical-development departments already awake to its possibilities.

What does nylon plastic have that previous materials don't have? We'll go into properties in detail later, but consider the possibilities of these points for textile mills:

1. Used as a bearing material, nylon plastic requires no lubrication in many cases.
2. It absorbs no oil and far less moisture than wood.
3. It resists cold-flow and deformation under loads better than other usual plastics.
4. It can be machined as easily as yellow brass or molded easier and for less than other materials.
5. It allows flexibility of design impossible with other materials.
6. It's light. You get seven to eight times as much in a pound as in a pound of metal—hence at a cost lower than most metals.
7. It has good heat resistance.
8. It does not deteriorate with age indoors.
9. It runs quietly.
10. It is resilient and can absorb shock loads.

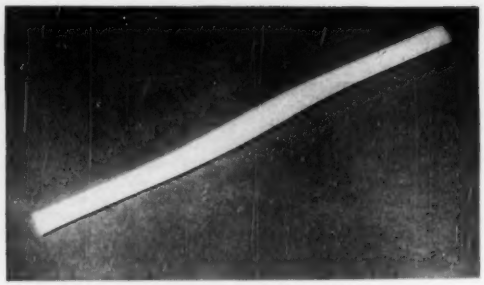
Here's How It's Used Now in Textile Mills and How It Performs



Parallel Block

SOAKING IN OIL is eliminated by use of a nylon-plastic parallel block which requires no lubrication, is quieter in operation, and absorbs rather than distributes shock. The nylon block is also said to outwear wooden and laminated blocks previously used. Nylon blocks have shown little wear after one year in operation.

Manufacturer: Danielson Mfg. Co., Danielson, Conn.



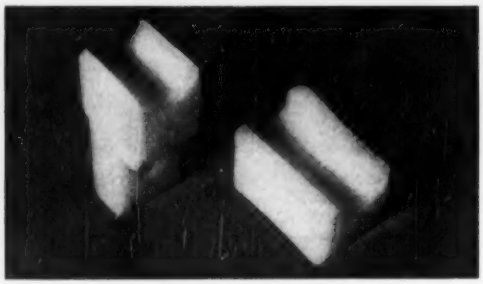
Verge Plate

A NYLON VERGE PLATE for full-fashioned knitting machines was developed by Davenport Hosiery Mills, Chattanooga, Tenn., and is being used satisfactorily by that mill and by Durham Hosiery Mills, Durham, N. C. Main advantages are: (1) lower cost than previous materials, (2) less re-surfacing required, (3) larger sinker life. Manufacturer: Made locally for mills.

Roll-End Bushings

BUSHING ROLL ENDS with nylon-plastic tips is said to eliminate oiling roll ends and cap-bar nebs and to reduce roll picking. Wear of roll ends is virtually eliminated. Added advantages are: reduction of oil contamination of roll covering and restoration and maintenance of roll-end diameters—a factor in accurate roll settings.

Manufacturer: Cox Foundry & Machine Co., Box 153, Station A, Atlanta, Ga.



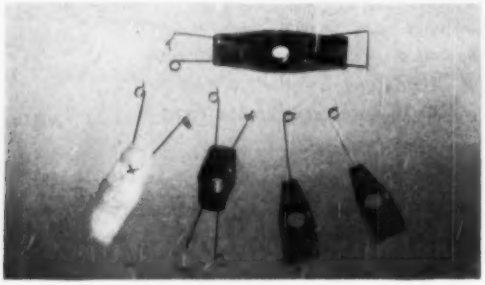
Cloth-Roll and Whip-Roll Bearings

NO OILING is one of several advantages claimed for nylon-plastic cloth-roll and whip-roll bearings.

After running dry for over a year, the cloth roll bearing was said to have shown negligible wear. Elimination of oil has also eliminated accumulations of lint.

The whip-roll bearing will not pick up moisture and will not corrode the whip-roll shaft if run without oil.

Manufacturer: Danielson Mfg. Co., Danielson, Conn.

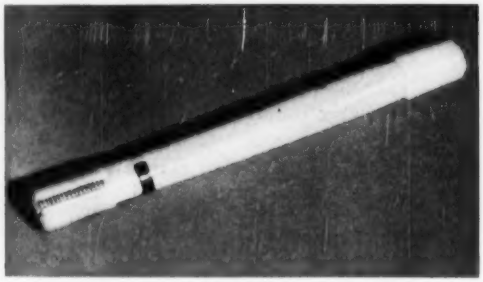


Flyer Blocks

LUBRICATION IS ELIMINATED completely by use of nylon plastic in flyer blocks because of the excellent bearing properties of nylon under light loads and at speeds up to 15,000 rpm. While first cost is higher than for previous forms of flyers, replacement cost is practically nothing because of the resistance of the plastic to breakage. The flyer block is molded in one piece, is light in weight, is resistant to acids and alkalies, has no sharp corners, and is easily cleaned.

Several throwing plants have had nylon flyer blocks in use for over three years and the blocks are said to show little or no sign of wear or necessity for replacement.

Manufacturers: M. J. McHale Co., 136 W. Market St., Scranton 8, Pa., and Herr Mfg. Co., Buffalo, N. Y.



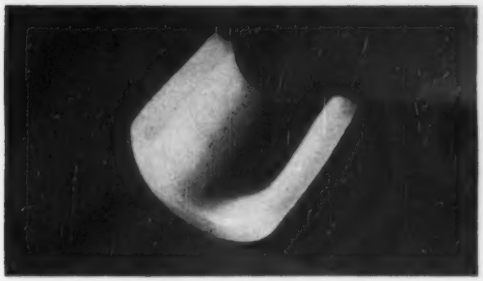
Bolsters

POWER SAVINGS and a reduction in or elimination of lubrication are principal advantages of nylon-plastic bolsters.

Power savings of about 15% input to the spindle and a 6 to 7% saving in input to the entire frame are a result of the low coefficient of friction of nylon and of the bolster design permitted by the properties of nylon plastic. After four years of service, nylon bolsters are said to show no wear toward the pull of the tape. Thus, spindles stay in plumb; and realignment is eliminated.

In cotton spinning, oiling of bolsters is reduced from a normal of once weekly to once every 3,000 hr. of running time. Some mills, however, oil nylon bolsters on the monthly greasing cycle.

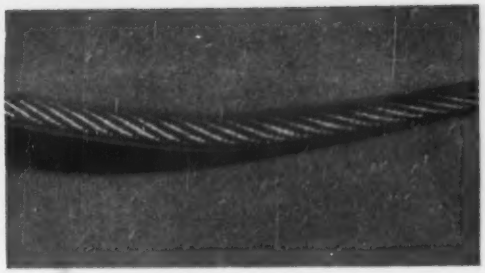
Manufacturer: (Nylube bolsters) Nylon Bearings, Inc., 21 Vernon St., Whitman, Mass.



Mule Roving-Roll Bearing

THIS NYLON-PLASTIC BEARING for use under bottom roving rolls was devised by James Irving & Son, Inc., makers of wool and nylon yarns, Chester, Pa. Lubrication is eliminated. The bearings have been in place nearly a year without noticeable wear.

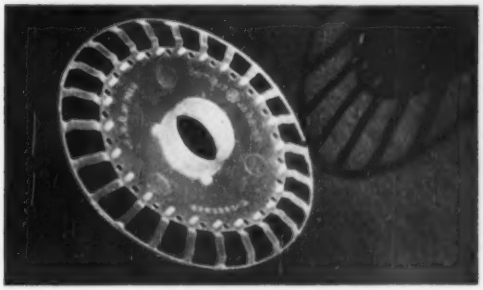
Manufacturer: Bearing made locally for mill.



Nylon-Covered Dobby Cord

SUBSTANTIALLY LONGER LIFE than cotton cord is claimed for this steel dobby cord with a nylon-plastic covering. The covering is impervious to oil and moisture, and improves the flexural-fatigue resistance of the cable over the sheave up to 10 times. The nylon-covered cord is also said not to shed or chafe.

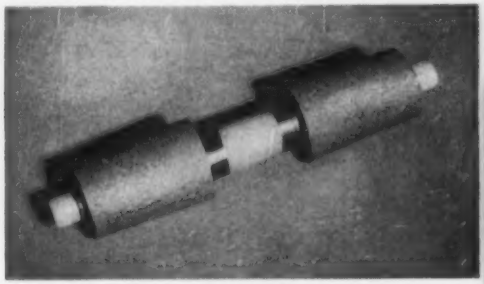
Manufacturer: Danielson Mfg. Co., Danielson, Conn.



Tension Pulley

DURABILITY, FLEXIBILITY, and its property of returning to shape after distortion were the reasons why nylon plastic was adopted by General Electric Co. for the tension pulley of its new yarn-tension brake. The new brake exerts tension on the yarn pulley (and the yarn that passes around it) by magnetic restraining force. Abrasion on the yarn is minimized as the yarn does not rub over any surfaces.

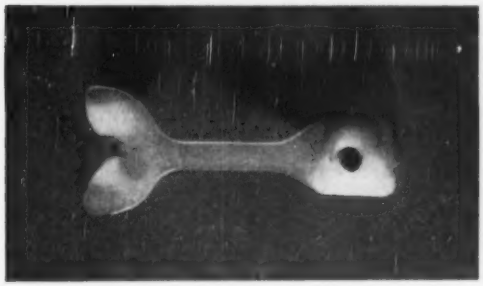
Manufacturer: General Electric Co., Schenectady, N. Y.



Top Rolls

ROLL PICKING IS REDUCED and oiling has been eliminated in many mills through use of back rolls with nylon-plastic bearing surfaces in conjunction with ball-bearing front rolls. Freedom from oiling has also meant freedom from oil stains and dry bearings on startups of frames—a frequent cause of ends down.

Manufacturer: (Sintex top rolls) Nylon Bearings, Inc., 21 Vernon St., Whitman, Mass.

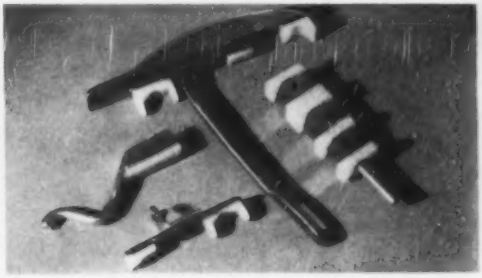


Condenser

THE LOW COEFFICIENT OF FRICTION of nylon plastic makes it ideal for use as a condenser in Saco-Lowell Shaw drafting systems for spinning. This guide must be extremely smooth so that fibers will not be hindered in passage through the opening.

The condenser groups all fibers together and presents them to the front rolls properly arranged so that when the strand is twisted, the yarn will be even and strong. The condenser also keeps short fibers in their proper position in the strand and resists the tendency of these fibers to become free and float on the strand where they can be picked up by the clearer as waste.

Manufacturer: Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.



Saddles and Cap Bars

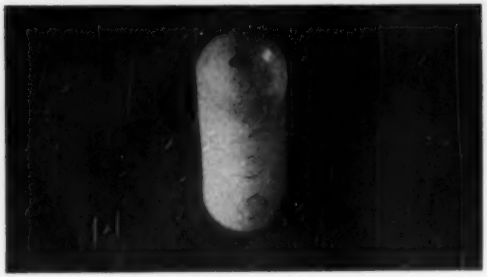
LUBRICATION IS ELIMINATED or reduced by use of nylon plastic in place of cast iron in these saddles and cap bars. No oiling is required on back rolls nor on front rolls at low speeds. In higher front-roll speeds, occasional oiling is useful, but frequency is lessened by about 75% even when the front-roll speed is 200 rpm.

A Georgia mill, by actual time study, saves 80 man-hours per week on 20,000 spindles by eliminating four oilings per spindle.

Initial cost of nylon-plastic saddles and cap bars is higher than cast iron, but replacement cost is much lower. Only bearings need be replaced, not the whole unit. Cap-bar bearings are reversible, thus their life is doubled.

Manufacturer: Dixon Lubricating Saddle Co., Bristol, R. I.

Here's How It's Used Now in Textile Mills and How It Performs



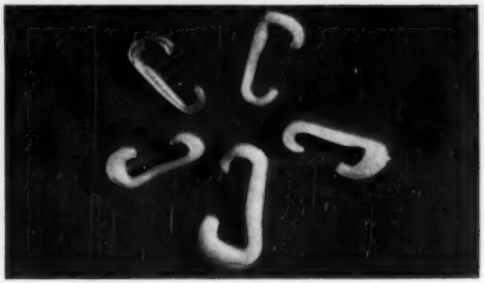
Throwing-Spindle Bearing

COOL, FRICTIONLESS running is accomplished in a throwing spindle with a nylon-plastic spindle bearing. The bearing is inexpensive. It runs immersed in oil; and, after running two years in mills, no measurable wear has taken place.

In tests running deliberately unbalanced packages at 13,000 rpm. for 80 hr., the nylon ran cool.

The nylon bearing is self-aligning with the top roller bearing as it is mounted on a pin and is cushioned against vibration by a heavy hour-glass-shaped spring.

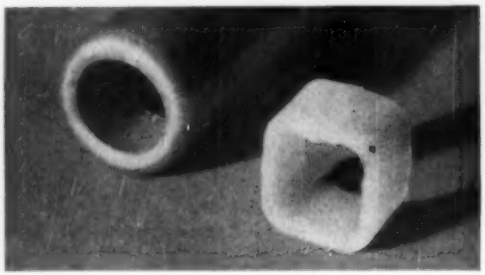
Manufacturer: Easton & Burnham Machine Co., P. O. Box 908, Pawtucket, R. I.



Twisting Travelers

WIDE APPLICATIONS of nylon-plastic travelers have been made in twisting of cotton, nylon, rayon, tire-cord, woolen, and worsted yarns. Nylon's low coefficient of friction permits a substantial reduction in amount of lubrication. The travelers are also said to permit better control of ballooning, a significant reduction in end breakage, increased yardage per bobbin, and less traveler breakage. Good tension control over a wider range of yarn counts and with a smaller number of travelers than previously required is also claimed. In some applications, higher spindle speeds have also been made possible.

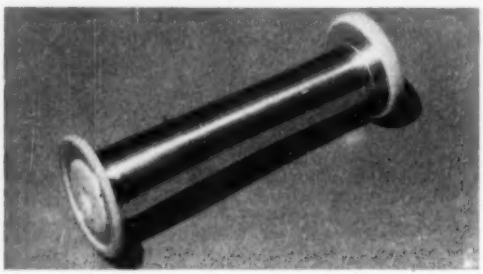
Manufacturer: Clark Thread Co., Newark, N. J.



Aluminum Bobbin Insert

ALUMINUM BOBBINS are held on and in contact with the spindle by a square nylon plastic insert which fits inside the bobbin tip. This aluminum bobbin is used extensively and successfully at Joanna Cotton Mills, Joanna, S. C. No other plastic, says the bobbin manufacturer, has the combination of tensile and flexural strength, that the nylon has. Metal used here would cause undue wear on the spindle. The nylon insert does not "freeze" to the spindle.

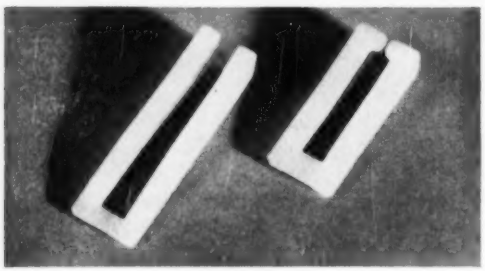
Manufacturer: F. L. Regnery Co., 613 W. 16th St., Chicago, Ill.



Nylon-Armored Aluminum Bobbin

A COMBINATION of nylon plastic and aluminum alloy produces a synthetic-yarn twisting bobbin of unique design and with many advantages. The aluminum-alloy barrel is designed to withstand the crushing pressures of most synthetics. Two one-piece end flanges prevent yarn being caught between head and barrel. The nylon end will not damage the driving burr. Nylon rims resist nicking and prevent yarn snagging. The bobbin runs on nylon bearings which absorb shocks, retain accurate fit, and do not freeze to the spindle.

Manufacturer: U. S. Bobbin & Shuttle Co., Lawrence, Mass.



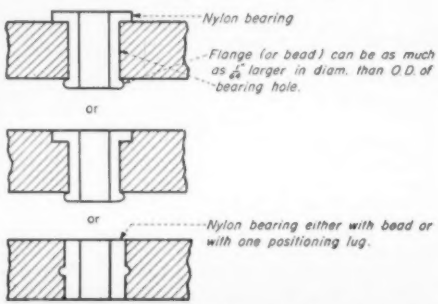
Finger Bearing

CONTAMINATION OF YARN by oil is prevented by use of nylon plastic in this finger bearing for up-twisters because of the ability of the plastic to run without lubrication. The nylon part can also be snapped into place on existing equipment.

Nylon bearings in this application are said to have shown no discernible wear after eight months.

Manufacturer: M. J. McHale Co., 136 W. Market St., Scranton, Pa.

Nylon snaps in, holds tight


Nylon bearing
Flange (or bead) can be as much as 1/64" larger in diam. than O.D. of bearing hole.
or
or
Nylon bearing either with bead or with one positioning lug.

***PARTS CAN BE SNAP-FITTED** because of elastic properties of nylon. Once snapped together, parts will not come apart under normal strain. (Nylon should not be press-fitted, however.)*

Here's a List of Nylon Plastic Properties

Tensile strength	−70° F.	15,700 psi.	Deformation under load, 122° F., 2,000 psi.		1.4
	70° F.	10,900 psi.	Heat-distortion temperature	264 psi.	150
	170° F.	7,600 psi.		66 psi.	360
Elongation	−70° F.	1.6%	Coefficient of linear thermal expansion per ° F.		5.5×10^{-5}
	77° F.	40%	Dielectric strength, short-time		385 v/mil.
	170° F.	320%	Dielectric strength, 60 cycles		4.1
Modulus of elasticity	77° F.	400,000		10^3 cycles	4.0
Rockwell hardness		R118		10^6 cycles	3.4
Flexural strength	77° F.	14,600 psi.	Power factor	60 cycles	0.014
Stiffness	77° F.	300,000 psi.		10^3 cycles	0.020
Impact strength, Izod	−40° F.	0.40 in.		10^6 cycles	0.040
	70° F.	1.0 in.	Specific gravity		1.14
Flow temperature		480° F.	Water absorption		1.5%
	(exceeded limit of apparatus)		Flammability		Self-extinguishing

PROPERTIES LISTED were determined by ASTM test methods on nylon plastic type FM-10001. Other types of nylon with slightly different properties are available.

Here's How to Try It

First, get some nylon plastic stock of a suitable size for machining the part you want. The plastic is available in rod, slab, hollow cast-bushing, strip, or tubing form in various sizes from Polymer Corp. of Pennsylvania, Reading, Pa.; S. S. White Dental Mfg. Co., New York; and (for test) from the Du Pont Co., Wilmington, Del.

Nylon machines very much like yellow brass.

In machining nylon, keep in mind that it is a thermoplastic, and therefore subject to the general rules established for machining thermoplastics. Nylon tends to soften if care is not taken to dissipate frictional heat generated during machining. Heat dissipation can be accomplished by the design of the tool, its speed and rate of feed, and the use of cooling agents. Excessive heat invariably results in gumming of the plastic, sticking of the tool, and unsatisfactory work. Tools should be kept sharp, and vibration of machinery must be avoided.

Almost all sawing of nylon plastic is done with a bandsaw, since practically no long cuts requiring close tolerances are required. A buttress blade having a No. 4 pitch and a set of 0.004 in. gives very satisfactory cuts. If a circular saw is used, more set is required to provide sufficient clearance between the blade and the nylon, so that gumming is avoided.

Because of the length of bandsaw blades, they dissipate heat more rapidly than do circular saws. Variations in length or thickness of cut, speed of cutting, smoothness of cut, and other conditions necessitate judgment on the part of the individual machinist.

The same drill profile used in drilling Lucite resin is suitable for drilling nylon.

Unless the equipment is sufficiently free from vibration and the spindle sufficiently free from play, smooth bores will not be obtained. Clamps or fixtures should be provided for holding the work securely. Modified machine twist drills can be used successfully if ordinary care is observed. Modification to the following specifications is recommended.

Flute angle	17°
Lip angle	70°
Lip clearance angle	4° to 8°
Polished lands, ¼ the width of the heel	

The drill should be burnished and deeply fluted to promote removal of chips and to prevent seizing.

RATE OF FEED. Rates of feed must vary inversely with the amount of nylon being displaced. Feeding too rapidly will result in binding of the tool. To avoid overheating, the rate of feed should be decreased as the depth of the bore increases, and the tool should be lifted from the work occasionally to free the shavings. A proper feed results in smooth, continuous, spiral shavings.

No difficulties will be experienced in turning or in screw-machine operations with standard sharp tools.

High spindle speeds and slow feeds will produce a nearly polished surface. Cooling agents may be used.

It is possible to thread or tap nylon with standard thread dies. Either hand or machine methods may be employed; but in machine work, it may be necessary to use cooling agents such as water-soluble oils or oversize taps, or both. Threading can be accomplished also on a lathe equipped with a threading device and a single-pointed tool.

In milling or routing nylon, the general rules for machining thermoplastic materials should be followed. Greater chip-clearance or rake on the tool is required than for metal. A fast tool with a slow feed, with a lubricant, produces the best results.

For nylon, wet sanding is practically a necessity, because dry sanding generates enough heat to cause gumming of the stock.

The choice of individual abrasives and of a succession of grades of abrasive depends on the amount of material to be removed and the finish desired. Mechanical wet-sanding equipment operated at approximately 3,000 surface feet per minute produces satisfactory results.

FINISHING. Nylon plastic can be successfully polished to a high finish by successively using a fine sandpaper, a wet ashing wheel, and a buffing wheel. A 14-in. wheel is satisfactory at approximately 1,728 rpm. A wet ashing wheel is imperative; and the stock should be kept in constant motion, with relation to the wheel, to prevent "burning." Grade FF or FFF pumice soaked with water is recommended as an ashing compound. After ashing, a similar wheel is used with a metallic-oxide buffing compound for polishing. The polishing is finished on a clean buffing wheel.

Polishing compounds suitable for polishing nylon include, among others,

Buffing compound No. 771—
Matchless Metal Polish Co.,
Glen Ridge, N. J.

Grade 832 "Learok"—
Lea Manufacturing Co.
Waterbury, Conn.

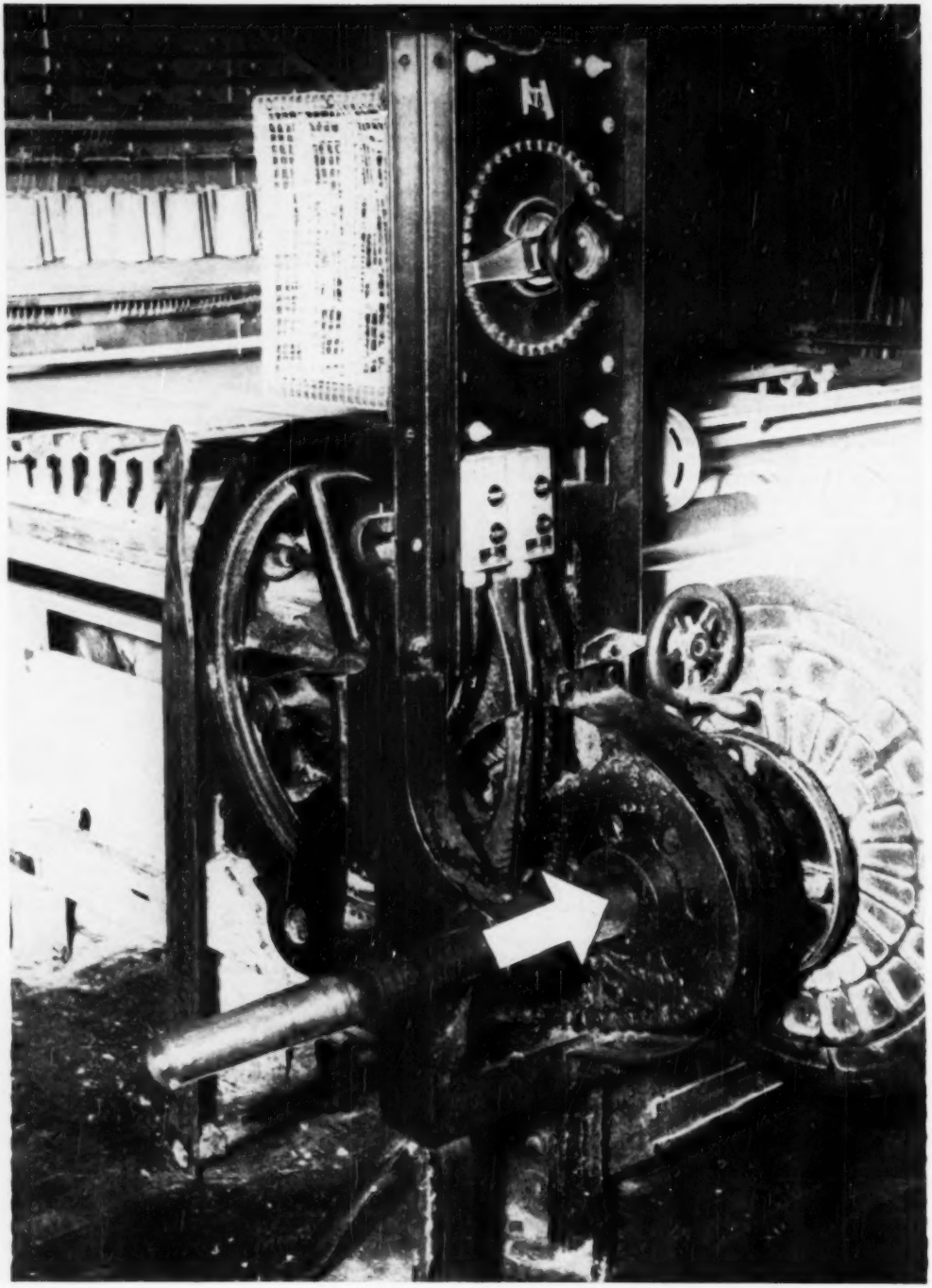
"Plascor"—
United Laboratories,
Linden, N. J.

Polishing compound—
Hanson-Van Winkle-Munning Co.
Matawan, N. J.

Reaming is not a satisfactory method of finishing a bearing, unless at least 0.010 in. is removed in such an operation. The resilience of nylon allows a reamer to go through a hole 0.005 in. smaller than reamer without removing material.

In common with metal samples machined from massive pieces of nylon should be treated to remove strains and insure more reliable test results. A properly molded article will not require this treatment, and the following method is used to prepare machined samples to obtain test results which will closely approximate the moldings. (If this is done, test data obtained on test samples are directly applicable to molded parts.)

STRAIN REMOVAL. To remove strains, the test specimen should be machined to within $\frac{1}{32}$ in. of finished dimensions and then soaked in water at room temperature. If the thickest wall section is less than ¼ in., soaking time will be 24 hr. for most pieces. For wall sections approaching ¼ in. in thickness, the soaking time should be 48 hr. Thicker sections require longer soaking. After the soaking is completed, the sample should be dried in an oven at 70° C. for a time equal to that used in soaking. The sample may then be finished to size.



CHAIN AND SPROCKET, as indicated by arrow, replace the friction clutch commonly associated with slashing. Desired tension is obtained by adjusting the hand rheostat above.

FOR COMPLETE DETAILS OF INSTALLATION — SEE NEXT PAGE

SLASHER TAKE-UP
Uses Magnetic-Clutch Motor

▶ *Verney Corp. builds its own drive in conjunction with its Uxbridge slasher-dryer unit at Brunswick, Me.*

▶ *A substantially uniform yarn tension is obtained through controlled clutch slippage on a direct drive.*

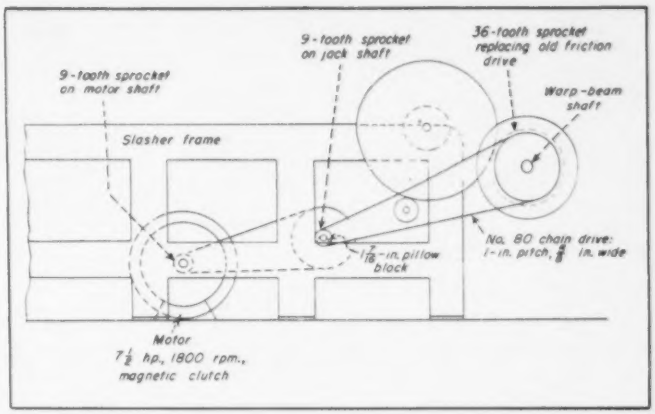
By JAMES S. CAMPBELL
Director of Engineering, Verney Corp.

A NEW UXBRIDGE "Gentle-Air" slasher-drying unit was purchased, in 1948, for our Brunswick, Me., division of Verney Corp. In completing the installation, we were faced with two alternatives: (1) a large expenditure for an electro-mechanical head-end beam drive or (2) the development of a suitable but less costly drive from materials on hand. The old friction-type beam drive, which has for so many years been associated with slashing, would not have been capable of handling the several thousand ends of heavy yarn at high speeds and uniform tension that we desired.

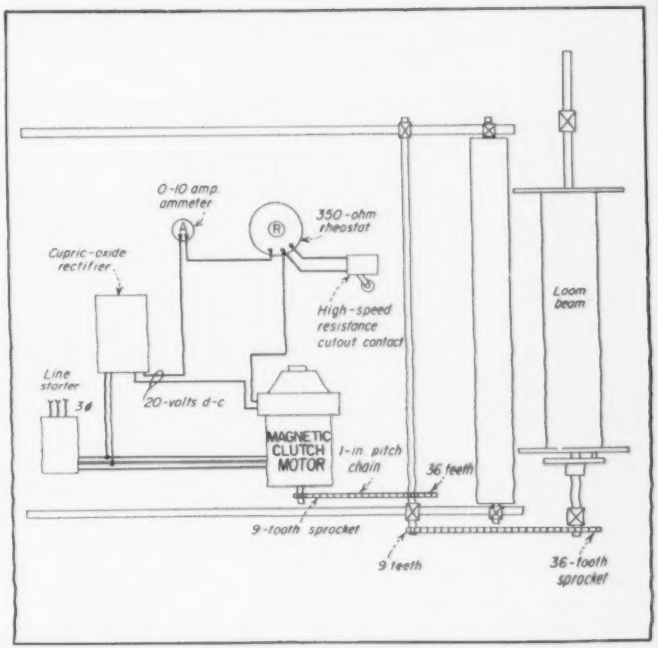
We decided therefore to do some experimenting with a 7½-hp., 1,800-rpm. Louis Allis magnetic-clutch motor that we had on hand. It was an old motor with a dry-type rectifier, not a modern one equipped with electronic rectifiers. Our hopes for a suitable performance were based on maintaining a clutch current at substantially a constant value while the yarn beam increased in diameter. Variation in torque and linear travel rate would be automatically and proportionately compensated for by a corresponding variation in slippage at the clutch. A substantially uniform tension on the yarn throughout the operation would thereby be obtained.

PROCEDURE. The governor contacts were disconnected, as we were not interested in maintaining a constant output speed. Direct current was run directly to the clutch with a 300-ohm, 5-amp. rheostat and an 0 to 10-amp. ammeter in series. The friction clutch was removed, and we connected the drive shaft of the motor to the warp beam through a 1-in.

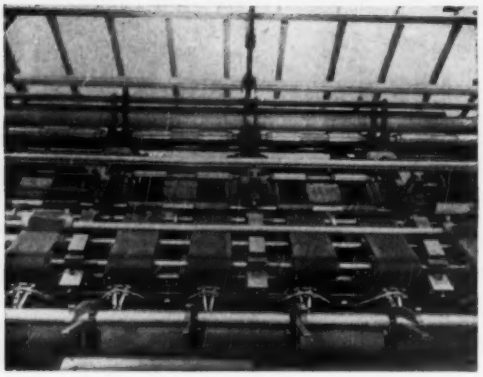
(Continued on page 280)


9-tooth sprocket on motor shaft
9-tooth sprocket on jack shaft
36-tooth sprocket replacing old friction drive
Warp-beam shaft
Slasher frame
No. 80 chain drive: 1-in. pitch, ⅜ in. wide
1⅞-in. pillow block
Motor
7½ hp., 1800 rpm., magnetic clutch

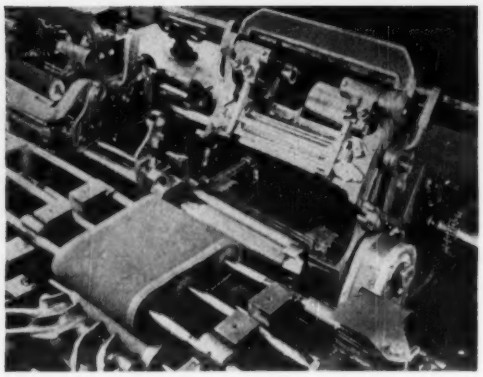
POSITIVE CHAIN DRIVES, *sprockets, and shafts drive the warp beam at right. Suitable uniformity in tension of yarn going onto the beam (not more than 5-g. variation) is obtained through slippage when a few amperes of direct current are carried on the clutch. A constant output speed was found unnecessary.*



MAGNETIC CLUTCH *on slasher motor succeeds in maintaining constant tension on yarn going onto ever-enlarging loom beam, geared directly to motor, by means of controlled slippage through direct current and a rheostat and ammeter in series.*



OPEN GILL BOX shown is credited with making possible reduction in operations. Gill box permits drafts of 6 to 7 compared to 4 to 4.5 for porcupine drawing frames.



RUBBING APRONS on intersecting gill boxes permit delivery of well condensed, firm sliver. Higher drafts and higher speeds are then possible in the next operation.

NEW FRENCH SYSTEM
Cuts Costs, Ups Production

- *Gill boxes replace porcupine frames*
- *Rub aprons on gill boxes condense sliver better*
- *More pounds are produced from fewer machines*
- *Production per operator is also increased*

By **VICTOR SAXL,** *Manager and Engineer, Stellite American Corp.*

IMPORTANT MODIFICATIONS have been made in recent years in French spinning systems. The French system has, in the past, been termed the "porcupine" system because of the large number of drawings made on porcupine frames.

Porcupine frames employ pinned rollers instead of fallers with pins. The rollers are made of brass, are covered with steel pins, and are used between the front and back drawing rollers.

The porcupine operations, usually 6 to 8 in number, have made spinning expensive because a total of 8 to 11 drawing operations have been necessary as against 6 to 8 in Bradford drawing.

The great number of porcupine operations have been necessary because of the low draft (around 4) that can be applied on porcupines; only a very gradual reduction in the sliver weight can be achieved.

Porcupines operate at lower speeds than do open or intersecting gill boxes. The intersecting gill boxes permit average drafts of 5 to 10; open gill boxes, 4 to 7; porcupines, 3.8 to 4.2. The average speed of intersecting gill boxes is 32 to 40 yd. per min.; open gill boxes, 29 to 30 yd. per min.; porcupines, 24 to 25 yd. per min.

It has been recognized, furthermore, that control of fibers through the porcupines is not entirely satisfactory, especially when the sliver is still heavy. Because of the longer distance between porcupine and front rolls, control of short fibers is lost. Some fibers slide above the porcupine rolls. Therefore, ways and means have been sought to replace porcupines in the coarser passages by gill boxes.

As the sliver in the fourth or fifth passage is light in weight and as the pin field is filled only partially, it has been found advisable to use open gill boxes instead of the intersecting types. Hartmann of Germany has made extensive tests in this respect and has recommended the use of the fourth and fifth passages of open gill boxes, but with much finer pinning than used hitherto.

This change was the beginning of the improved Continental spinning system, which has been further modified and developed by French and Italian worsted machinery builders, and which is being recommended today.

The improved system consists of 5 to 8 drawing operations—against 8 to 11 previously employed—depending upon the yarn count to be spun. Up to 4 operations can be saved, and the number of porcupine drawings are reduced from 6 or 8 to 1 or 2. See Fig. 1.

With the new drawing set-up, evenness of yarn produced is not only equal but in many cases better than that produced on the old system.

The advent of long-draft spinning frames has contributed to this im-

▶ The French spinning of worsted and blended yarn is widely used in the U. S. This system is particularly suitable for fine short and medium-long wools. Even wools of irregular staple can be processed satisfactorily. Coarse, long wools; blends of wools with cotton, nylon, Orlon, viscose, or acetate rayon; or any of the other fibers alone are handled successfully on this system.

It is generally acknowledged that French spinning produces a softer and loftier yarn than do other spinning methods.

Fig. 1.
IMPROVED CONTINENTAL DRAWING SET-UP

Operation	
1st	Intersecting gill box*
2nd	Intersecting gill box
3rd	Intersecting gill box
4th	Intersecting gill box with rub aprons
5th	Open gill box with rub aprons
6th	Open gill box with rub aprons
7th	Porcupine drawing frame**
8th	Porcupine drawing frame†

*Can be eliminated for stocks with uniform staple

**For yarns finer than 27s

* and † For yarns finer than 40s

provement. Whereas drafts below and around 10 were recommended on regular-draft spinning frames, long-draft frames has contributed to this im- 15 and more. The heavier roving that can be used on the spinning frame permits the cutting of drawing operations.

The new French system—or improved Continental drawing system as it is also called—consists usually of 3 to 4 intersecting passages, 1 to 2 open gilling operations, and 1 to 2 procupine operations. Porcupines are necessary only for yarns finer than 26s to 27s.

Yarns up to 27s can be spun in 5 to 6 operations without the use of porcupines. Roving from the open gill boxes can be spun directly on the long-draft spinning frames.

Yarns up to 36s are processed in 6 to 7 operations with one porcupine drawing; and yarns from 40s upwards, in 7 to 8 operations with two porcupine drawings.

For a comparison of the old and new set-up for counts from 24s to 27s and 36 to 40s, see Figs. 2 and 3. Great improvements are obvious; and the savings in operations, maintenance cost, etc., are truly considerable. The reduction in the number of operators by from 4 to 8 and more, is of special importance.

There are, however, a number of spinners who cannot or do not wish to acquire a completely new set of machinery.

Can these spinners benefit by the new developments? The answer is that they can. The reorganization is comparatively simple. In many cases, they can use their existing intersecting gill boxes (sometimes with minor adjustments). They should use the intersect-

(Continued on page 220)

Fig. 2. FOR YARNS 24s TO 27s
Comparison of Old French Setup and New Improved Continental Setup

Usual Old Drawing Plan

Operation		Machines
1st	Intersecting gill box	1
2nd	Intersecting gill box	1
3rd	Intersecting gill box	1
4th	Reducer	1
5th	Slubber	1
6th	1st Intermediate	2
7th	2nd Intermediate	2
8th	Finisher	3

Yarn to be spun with draft of about 8

Total: 12 machines
12 operators

Production: about 225 lb. per hour; about 19 lb. per operator per hour

New Drawing Plan

Operation		Machines
*1st	Intersecting gill box	1
2nd	Intersecting gill box	1
3rd	Intersecting gill box	1
4th	Intersecting gill box with rub aprons	1
5th	Open gill box	1
6th	Open gill box	3

Yarn to be spun with draft of about 11 to 12

Total: 7 to 8 machines
7 to 8 operators

Production: about 300 to 325 lb. per hour; about 42 lb. per operator per hour

*Can be eliminated for stock with regular staple

Fig. 3. FOR YARNS 36s TO 40s
Comparison of Old French Setup and New Improved Continental Setup

Usual Old Setup

Operation		Machines
1st	Intersecting gill boxes	1
2nd	Intersecting gill boxes	1
3rd	Intersecting gill boxes	1
4th	Reducer	1
5th	Slubber	2
6th	1st Intermediate	2
7th	2nd Intermediate	3
8th	3rd Intermediate	4
9th	Finisher	5

Yarn to be spun with a draft of about 8

Total: 9 operations
20 machines
20 operators

Production: about 230 lb. per hour; about 11.5 lb. per operator per hour

New Plan

Operation		Machines
*1st	Intersecting gill box	1
2nd	Intersecting gill box	1
3rd	Intersecting gill box	1
4th	Intersecting gill box with rub aprons	1
5th	Open gill box	1
6th	Open gill box	3
7th	Porcupine	4

Yarn to be spun with a draft of about 11 to 12

Total: 7 operations
11 to 12 machines
11 to 12 operators

Production: about 275 to 300 lb. per hour; about 25 lb. per operator per hour

*One intersecting operation can be eliminated for stock of uniform staple

Fig. 4. FOR 40s YARN
Recommended Reorganization Plan

Usual Old Plan

Operation		Machines
1st	Intersecting gill box	1
2nd	Intersecting gill box	1
3rd	Intersecting gill box	1
4th	Reducer	1
5th	Slubber	2
6th	1st Intermediate	2
7th	2nd Intermediate	3
8th	3rd Intermediate	4
9th	Finishers	4 to 6

Total: 9 operations
20 machines
20 operators

Production: about 230 lb. per hour; about 11.5 lb. per operator

Modernized Setup

Operation		Machines
1st	Intersecting gill box*	1
2nd	Intersecting gill box**	1
3rd	Intersecting gill box**	1
4th	Intersecting gill box† with rub aprons	1
5th	Open gill box‡	1
6th	Open gill box‡	2
7th	Porcupines (same finisher or 3rd Intermediate)	4

Total: 6 to 7 operations
10 to 11 machines
10 to 11 operators

Production: about 275 lb. per hour; about 25 lb. per operator

*Can be eliminated for stock with regular staple

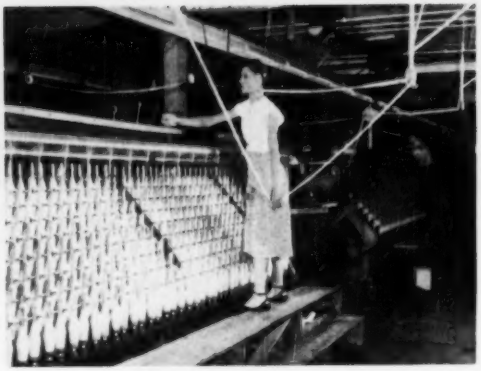
**Have to be adjusted in some cases

†Recommended new machine

‡Necessary new machine

Saving: 10 operators per shift; 3 to 4 new machines required

BOILER HOUSE has two 50,000-lb. boilers and one small boiler. Al Congdon, plant engineer (left), discusses steam requirements with Al Wilson, plant manager (right). Water for plant is obtained from a lake which Aberfoyle owns.



WHITIN QUILLERS are used to package the yarn after it has been gassed, bleached, and mercerized. Jane Hardey was trained to operate this quiller only recently. She uses a stick to help keep the yarns separated.

New PACKAGE-DYE PLANT Is Well Planned

***HIGHLIGHTS:** Aberfoyle Mfg. Co. starts up a new plant at Bridgeton, N. J., to gas, bleach, mercerize, and dye yarns—Layout will give good flow of materials—Planned one-interview system used to select employees—Workers trained on machinery in pilot-plant operation as it is installed.*

By W. A. THOMASON, JR., Southern Editor, TEXTILE WORLD

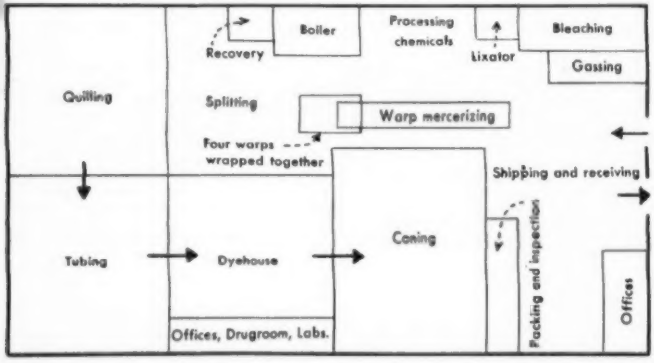
THE NEW ABERFOYLE PLANT at Bridgeton is being officially opened this month. What has gone on in the way of planning prior to this official opening reflects credit on the Aberfoyle management.

The building housing the new plant was built just after the end of World War I; and until Aberfoyle bought it, it had been a dye plant of Martin Dyeworks. Aberfoyle completely rebuilt the plant, except for the outside walls. Straight-line flow of materials, with adjacent shipping and receiving points, was planned. Al Wilson was brought up from the Southern division of Aberfoyle to be plant manager.

Since Bridgeton is not an industrial center, workers had to be selected on the basis of their potential ability and trained for their new jobs. Personnel consultants, Robert M. McMurry Co., Chicago, Ill., were called in to set up a personnel-selection system. Miss Marian Way, with Aberfoyle 32 years, was trained by McMurry to select workers based on a patterned one-interview system.

The tests and questions in this interview evaluate the applicants on their emotional maturity and indicate their aptitude. Medical and eye examinations are also given. So far, less than 5% of the applicants for work have been selected.

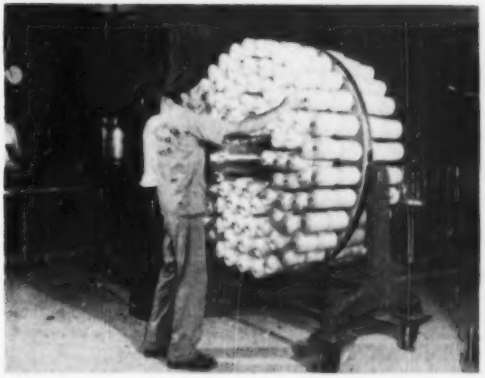
Some of the machinery came from the Aberfoyle Chester (Pa.) plant, which is being liquidated, and some of it is new. As the machinery was installed, it was started up in more or less pilot-plant operation. This system enabled Aberfoyle to train the workers in small groups and thereby give more attention to each trainee.



PLANT LAYOUT features straight-line flow, with shipping and receiving at adjacent points. Yarn is received in ball warps and is shipped on cones. Plant will gas, bleach, mercerize, and dye all types of cotton yarns. Production is expected to reach about 100,000 lb. per week.

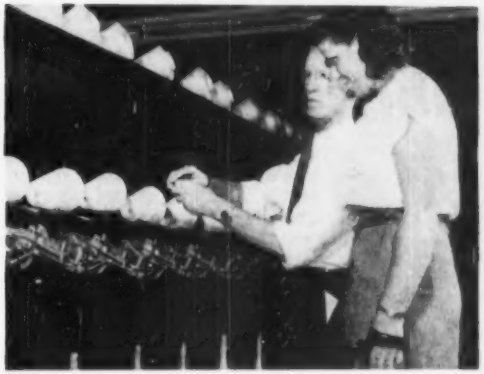
DYE TUBES are wound on Roto-Coners with filter paper on the tubes to help get good dye penetration. Ann DuBoise tells Jimmy Keelins, superintendent of dry processes, that she believes she is about ready to run a full job.

DYE FORMULAS are worked out in the lab, and dyes for production are mixed in the drug room. Dick Kopp, superintendent of dyeing (left), watches Mathew Creamer (right) take a sample of yarn to check the shade. Color-matching lights are used for this test.



DYE PACKAGES are handled four times in the dyehouse. Mel Bennett and Roland Rice are putting the tubes on a spindle carrier, which is on a truck designed by Aberfoyle. After dyeing, the tubes are taken off the carrier and put into the extractor.

DRYING TIME is checked by Dick Kopp. When the packages are taken from the extractor they are put on trays and drying is done in these tray dryers. The drying time for each type of yarn is established by tests.



WINDER OPERATORS are trained in the best methods by Jimmy Keelins, who has been with Aberfoyle for 48 years. Here, he shows Violet Woodis how to use the knotter. With the individual training she will get, Violet will be running a full job soon.

CONES ARE WRAPPED and shipped by Edith Romano only after they have been inspected very closely. Quality must be rigidly controlled at Bridgeton, where most dyeing is in pastel shades. Yarns processed here include Durene, Coldfire, and Fiberfoyle.

How Yarn Is Laid In On Circular Knitting Machines

Production of the inlaid stitch on a circular latch-needle machine is very simple:

1. Between each knitting feeder there is a laying-in feeder. At the laying-in feeder, alternate needles are lifted to take the inlaid yarn into the needle hooks; and the yarn passes behind the needles not lifted.

2. At the next knitting feed, the old loops and the inlaid yarn are held down by the sinkers while the needles rise to take the yarn.

3. The needles descend the stitch cam while the sinkers are withdrawn, draw the new loops through the old loops, and cast off both the old loops and the inlaid yarn.

4. This cycle of operations is repeated at the next inlaid feed and knitting feed, except that those needles that took the inlaid yarn previously now remain down, while the needles that did not take the inlaid yarn at the previous feed take it into their hooks.

5. The operation is repeated throughout the length of the fabric.

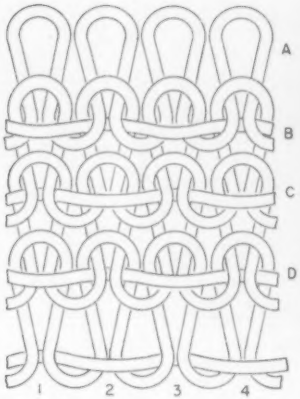


Fig. 1. EXTRA YARNS are laid into the loop structure of this stockinette fabric at B, C, D, etc.

Fig. 2. FINISHED STOCKINETTE FABRIC has a good cover because of the extra inlaid yarn available for napping.

▶ Fig. 1 shows the loop structure of a hopsack fabric, and Fig. 2 is a photograph of the material when finished. The main structure of hopsack fabric is the plain-knit stitch known as stockinette. For dress fabrics of this construction, large-diameter circular machines are used with multiple feeders. This set-up gives high production, as each machine revolution results in the making of a number of knitted courses, according to the number of feeders employed. In addition to the main yarn, there is also a yarn at each course not knitted in. This extra yarn can be seen in Fig. 1 passing in front and behind alternate pairs of sinker loops.

At course A, showing the normal reverse side of the fabric, the inlaid yarn passes in front of the sinker loops at wale 1 and behind those at wale 2. It again passes in front of the sinker loops of wale 3 and behind those at wale 4.

At course B, the inlaid yarn passes behind sinker loops of wale 1 and in front of wale 2, behind wale 3 and in front of wale 4. This pattern is repeated throughout the fabric. Course C is exactly the same as course A, and course D is the same as course B.

INLAID FILLING YARNS
Increase Knit-Fabric Versatility

An analysis and description of typical inlaid knitted fabrics and a brief outline of the production details.

By **HARRY WIGNALL, A.T.I.,** *Leicester, England*

TO REMOVE WIDTHWISE ELASTICITY in knitted fabrics, a straight filling yarn can be laid in that has natural non-elastic qualities. The fabric will then have its lateral elasticity removed, and when made up into dresses it will behave more or less as a woven cloth. It is also possible to lay in vertical yarn on filling-knit fabrics, but because the fabric has practically no lengthwise stretch and because the mechanism for feeding warp yarns brings an extra complication, this method is seldom attempted.

Another feature of inlaid yarns is that these do not get into the needle hooks, and so a heavier count of yarn can be used to give the fabric increased weight and firmness. This feature gives inlaid fabrics great resilience so that after being suitably finished they can be used in tweed suitings.

Another feature of inlaid fabrics is that rubberized yarns can be used to accelerate and control fabric recovery after stretching. The customary firmness of ordinary fabric is achieved with rubberized yarns, and a greater force than normal is required to secure extension. Woven fabrics containing

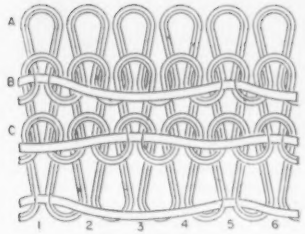


Fig. 3. FLOATING FILLING YARNS are laid in this manner into knit fabrics designed for blanketing or underwear.

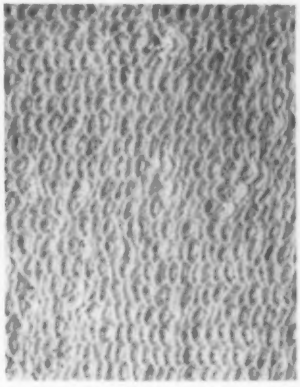


Fig. 4. GRAY FABRIC knit in the pattern shown at 3 gives the appearance of many loops just waiting to be napped.

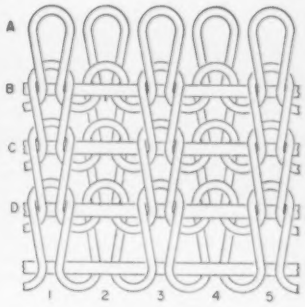


Fig. 5. FILLING-KNIT YARN laid into a basic 1x1-rib-fabric construction makes a loop structure that looks like this.

► Fig. 3 shows the loop structure of a common type of fleecy fabric, and the appearance of the material before finishing is shown in Fig. 4. As mentioned elsewhere, the long floating filling yarn is brushed to form a continuous nap either for crib blankets or children's underwear. The method of production on loop-wheel machines is the following:

1. *Backing wheel* puts the fleecy yarn around every third or fourth needle.
2. *Push-down wheel* takes the fleecy loops down the needle stem.
3. *Loop wheel* forms the loops with the binding yarn and takes them under the beards.
4. *Presser* closes the needle beards.
5. *Holding-down* wheel holds the fabric down while the first four operations are proceeding.
6. *Landing wheel* places fabric and fleecy loops on needle beards.
7. *Auxiliary holding-down wheel* takes fabric down needle stems and holds it while face loops are formed. (Fleecy loops remain around needle beards.)
8. *Loop wheel* forms loops with the face yarn and takes them under the beards as it casts off the fleecy loops.
9. *Presser* presses the beard before passing the old loops over the new loops.
10. *Landing wheel* places fabric loops on the beards.
11. *Knocking-over wheel* casts off the fabric loops.

correctly used elastic yarns are superior to knitted fabrics for heavy duty; but for elastic stockings, half hose, etc., elastic knitted fabrics are widely used.

A further use of inlaid knitted fabric is in inlaid yarns that can be brushed into a nap without damaging or weakening the main structure of the material. This type of fabric is suitable for many types of children's wear, and is frequently fulled and brushed for crib blankets.

For good napping, the laid-in yarn should preferably be composed of short fibers, with a minimum amount of twist. Tradition is that knitted fabrics are best brushed with teasels, but wire cards can be used if correctly adjusted. The teaseling process, however, is supposed to give a firmer and more even cover.

RIB FABRICS. The inlaid structure of rib fabrics is generally good for the elasticizing of knit goods. Rib fabrics may also be given lengthwise elasticity by knitting some of the courses also with elastic yarn.

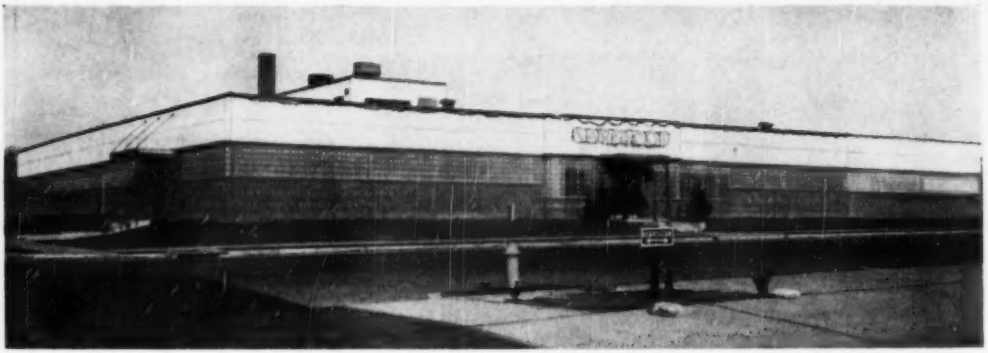
On circular machines, an additional feeder is used for the elastic, which is laid in between the cylinder and dial needles. On flat-bar machines, an inlaid feeder preceding the cam carriage lays the elastic yarn between the needles, which in turn are immediately projected upward by the clearing cam to rise above the inlaid yarn and hold it down.

This method of feed can also be employed on half-cardigan and full-cardigan tuck fabrics, as well as on interlock constructions. In addition, non-elastic yarns can be used to give similar advantages.

Advantages of Using Inlaid-Knit Yarns

Inlaid-knit fabrics

- Are useful in eliminating elasticity in dress fabrics.
- Can be heavier and firmer than ordinary-knit fabrics.
- Can give fabric recovery after stretching through use of rubberized yarns.
- Are easily brushed without weakening the main structure of the fabric.
- Are useful for elasticity purposes on rib-, tuck-, and interlock-stitch constructions.



GLASS BLOCK in a 4½ foot strip circles the one-story building, allowing natural light and heat to get in. Controls on each side of the plant regulate the amount of inside heat or cold that is needed to balance temperatures outside, and to keep temperatures inside constant. Air-conditioning equipment is in the penthouse. It keeps humidity within 1% of the set figure.

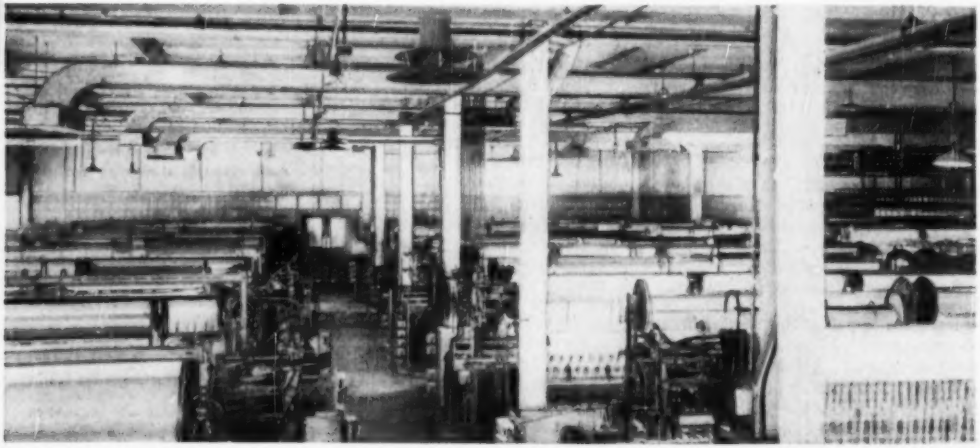
To Get the Most From AIR CONDITIONING . . .

. . . Narricot Co. figured out its air needs before it built a new building. Narricot forethought provided

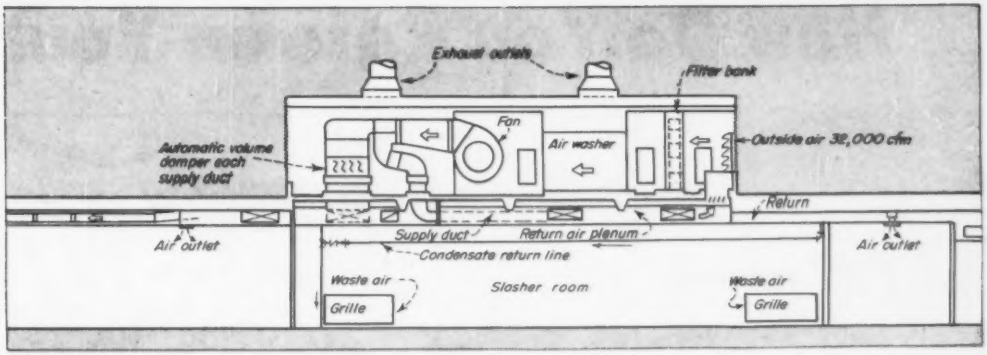
- ***Radiant heating in the walls and under floors***
- ***Four air-conditioning zones, each with its own controls***
- ***Cooling of the slasher room with exhaust air***
- ***Special ducts, insulation, and lighting***

INSTEAD OF ADOPTING a new air-conditioning system to an old building, Narricot Co., Philadelphia, Pa., has built a weaving plant designed especially with atmospheric controls in mind.

There are really four self-contained air-conditioning units in this plant. Each of four zones has controls to regulate temperature and humidity, depending on factors such as sun or cold-wall effect.

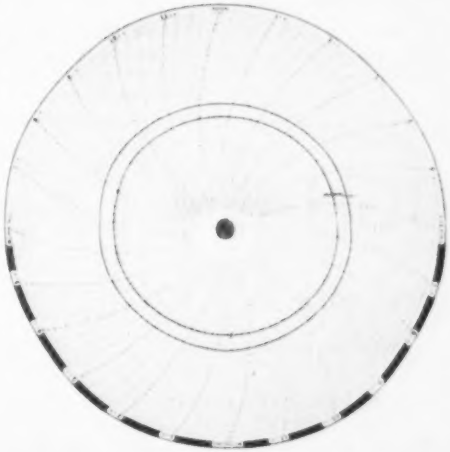


SPECIAL VENTS, visible in the upper part of the picture, were designed to provide low-velocity air flow to protect the yarn in the top castles of the narrow-fabric looms from tangling. Since then Narricot has replaced the old style tops with this up-to-date equipment.



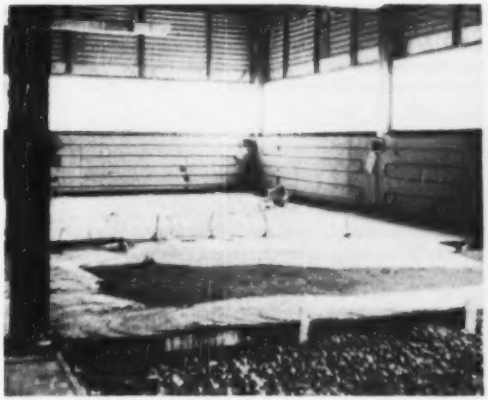
OUTLINE PLAN of the unit shows how waste air is exhausted through the slasher room to keep that room at a reasonable temperature. The slasher room, in the interior of the plant, has such high temperatures that it would take extra-heavy equipment to cool it if it were on the regular system. So it uses air which has already circulated through the rest of the plant. This arrangement puts no added strain on refrigerating equipment, and represents a distinct saving. In winter, the supply of fresh air admitted may be as low as 15%, to save heat.

NOT A FAKE—this is an actual temperature-humidity record in the weaveroom. It was recorded on the split air-conditioning system at the Narricot Co. in Philadelphia, and was taken on an operating day in the dead of winter—Jan. 31, 1949. A combination of radiant heating in the walls and an air-conditioning system, interconnected by sensitive controls, provides amazingly uniform conditions.



Narricot reports operating costs have gone down 10% compared to old-plant costs. Shuttles alone have showed a minimum gain in operating life of 50%. Worker output, it claims, is distinctly higher.

Gone are low winter humidities, which caused contraction of wooden parts, loss of moisture in yarns, and static electricity. And there won't be any more shutdowns from swollen looms in summer.



WATER-FLOW CONTROLS for each set of radiant-heat coils are mounted on the boxes visible in the corners, flush in the finished wall. Departments which need a lot of bench space are located around the edge of the building near natural light. Pipes are laid under the floor near windows to counteract troublesome cold downdrafts.

INSULATION between the heating coils and the outside wall extends three feet below the level of the floor slab. This design cuts heat losses which would occur if the cold wall were directly connected to the floor. Offices and cafeterias are on the south side of the building to get full benefit of the sun.

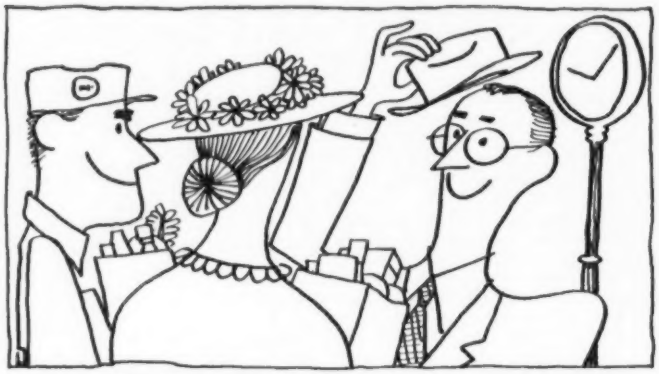
How Do You Rate on Your

LOW →

or

WHETHER YOU LIKE IT OR NOT, Mr. Supervisor, you are an ambassador of your company in the community where you live and in the groups with whom you associate—even in the barber shop where you have your hair cut. Cultivate good manners—don't be a "gloater" or a "big-shot".

HIGH →



A GOOD SUPERVISOR MUST not only be a "good-Joe", but also he must be friendly, courteous, tactful, and sympathetic toward his fellow citizens in the community. Undesirable traits—aloofness, indifference, cynicism—build up a resistance to you in the community that reaches into the mill, and bears down on your effectiveness as a leader.

By HUDSON NIX

A good supervisor must have a solid code

- ***He must be a good citizen in and out of the mill.***
- ***He must be friendly, courteous, and tactful.***
- ***He must be an asset to the life of the community.***

Here are some hints on how to be a good supervisor

DO YOU SAY, ". . . My time off is my own. What I say and do out of the mill is my own business!"—or do you feel that ". . . I have a definite leadership responsibility in the welfare and spiritual well-being of my employees. Therefore, I am active in their church, school, and community affairs."

You may be a hard-working and efficient overseer or superintendent, but you will never be of full value to your company if you are not also a good citizen off the job and out of the mill. Neither can you reach your capacity for happiness and personal achievement if you overlook your responsibility for community welfare.

How Can I Be a Good Citizen?

It's easy—remember the golden rule, which is the result of good manners. Show friendliness, courtesy, tact, little gestures of helpfulness, sympathy and interest, respect for the aged, patience for the young and eager, and understanding for the weak and handicapped. Avoid the suggestion of gloating or the show of satisfaction over an opponent's misfortune, downfall, or embarrassment.

When not inspired by the thought of profit or gain, good manners will pay off for the supervisor and the mill. You make friends for yourself and your company by your courtesy. You will lose them if you are discourteous. This is true in every contact you make—whether face to face, by telephone, or by letter.

One ill-considered, discourteous remark relayed to the mill management will cause them to question your wisdom and judgment. Manners and community responsibility are not something to take or leave—an attitude to be shown on occasion and forgotten at other times. Unfailing good manners with your butcher, baker, barber, gas man, garbage collector, plumber, and postman pay off by setting up a feeling of friendliness in the community for you and your mill.

Community Relations?

DON'T BE A "JOINER" or a "do-gooder". If you are sincere in serving your community through its churches, schools, civic clubs, Red Cross, Scouts, or recreation and youth-building groups, people will know it. You don't have to be the leader of an organization.

DON'T ACCEPT POSITIONS— of top leadership—especially in groups having many of your employees—unless you are sure that you are wanted for your interest and ability, and not because the employees think you expect recognition.

WHAT SKILL, hobby, training, or past experience do you have that would be of service to some community organization? The opportunities for worthwhile service are limited only by your interests and your community's needs.

YOU CANNOT afford to overlook the obligations and real opportunities community leadership offers. By eagerly and sincerely leading by doing, you strengthen your personality, your reputation, and the goodwill of the community toward the mill you represent.

Should I Join Community Organizations?

Yes, but not just to be a joiner. You should find a niche in which you can effectively serve your community. It may be in its churches, schools, civic clubs, or welfare activities. The main thing is to be sincere and active. You don't always have to have a position of leadership in an organization. You may give your best service helping in a P.T.A. or on a Boy Scout project—or even sharing a hobby with others.

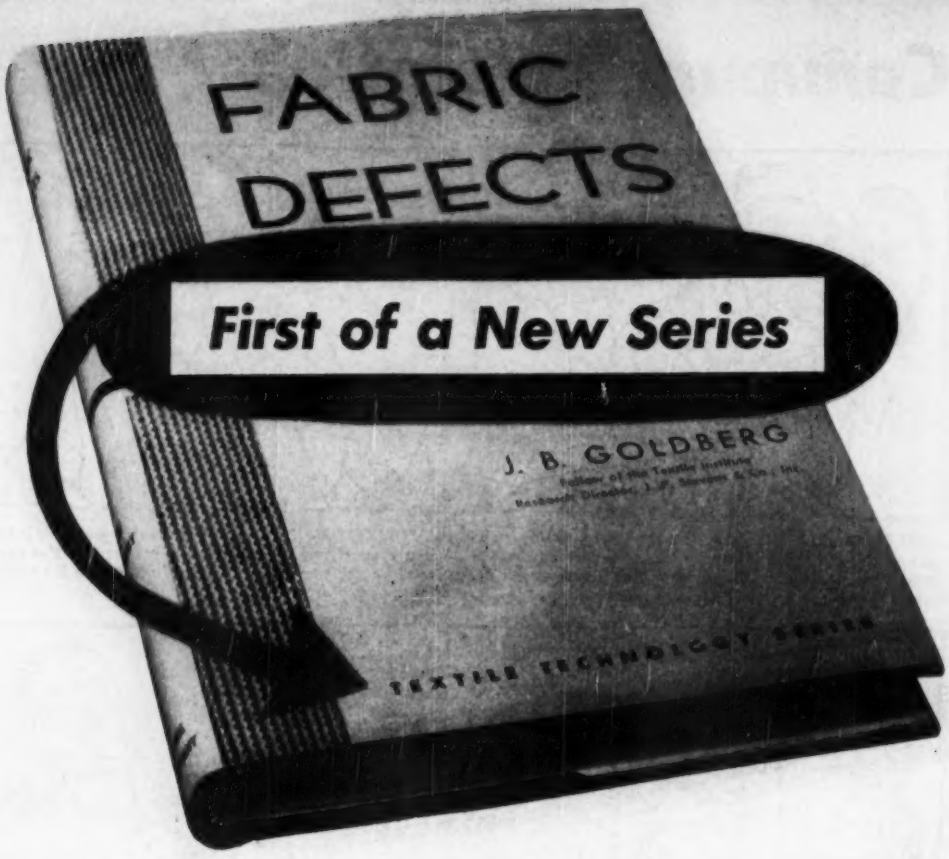
In discussion meetings, make sure that you do not dominate the conversation or over-play your knowledge, experience, or opinion. Show healthy respect for ideas that may be different from your own; show your interest in the opinions and experiences of others; and show that you're for what best serves the largest number in all the groups you work with.

Not only you, but also your textile mill must be a good neighbor and citizen. It must have character. And it cannot achieve this reputation simply by providing employment and good wages, paying taxes, and supporting community drives.

A mill's reputation in the community is influenced by its management policies, its employees, and its supervisors. What employees say about their company, their jobs, and their supervisors contribute to this reputation. What supervisors say and do, and how they make their influence felt can be the largest factor in their mill's community relations program.

A good supervisor is known as "the boss" in the mill and as a plain, good citizen outside. Such men are not merely known and respected as public-spirited citizens. They are also recognized as the type of men their company hires, promotes, and places in positions of leadership.

Community support and good-will will make your present leadership position easier, and help prepare you for a position of greater responsibility.



► Recognizing the need for a complete series of books on textile technology, the McGraw-Hill Book Co. has begun such a series in collaboration with the editors of TEXTILE WORLD, the textile magazine of the McGraw-Hill Publishing Co. C. W. Bendigo, editor-in-chief of TEXTILE WORLD, is acting as consulting editor for the McGraw-Hill Book Co. to develop the series. Previously published McGraw-Hill textile books in future editions will be considered for inclusion in the series. One, "Rayon Technology," undoubtedly will be part of the series later on.

Here is No. 1—

Fabric Defects is designed for use by all mill men who deal with the production of woven fabrics—from raw fiber to finished fabric. It is presented in case-history form based on experiences of the author, J. B. Goldberg, an internationally recognized textile authority and technician. The book goes right to the point in analyzing defects. It doesn't waste words, it shows in superb illustrations exactly how most of the defects look, and it tells in every case the likely cause.

The book is well organized into five parts: (1) gray-goods manufacturing defects from fiber through weaving, (2) faults in synthetic yarns, (3) dyeing and finishing faults, (4) imperfections which later appeared in finished garments, and (5) miscellaneous case histories. The book is even now being used as a standard reference for defect terminology.

Here is what's planned—

Already in preparation by Karl Inderfurth is a manuscript on *Nylon Technology*—it may be No. 2 in the series. As suitable manuscripts can be found or developed, the series is planned to include books on cotton manufacturing; woolen and worsted manufacturing; all phases of knitting; bleaching, dyeing, and finishing; and related subjects having to do with textile technology. Queries about or manuscripts on any of the subjects can be addressed to the editor of TEXTILE WORLD.

TEXTILE WORLD is glad for the opportunity—through its association with the McGraw-Hill Book Co.—to extend its service to mill men by means of developing this much-needed series of books on textile technology. The books will contain genuine "know-how" on processing methods. They will be written, like TEXTILE WORLD, for readers already familiar with machines.

SOUND MANUFACTURING PRACTICES come first. "Mr. Donald" Comer, Avondale chairman, center, and "Mr. Hugh" Comer, president of the mills, right, feel that "we have a duty to our people to make money."

How Avondale Mills Works Its HUMAN-RELATIONS PROGRAM

What is Avondale's program? **What does it cost?**

How does it work? **Is it worth the money?**

Why does it work? **Do workers like it?**

By P. M. THOMAS, Associate Editor, TEXTILE WORLD

▶ TEXTILE WORLD has had opportunities at odd times during the past few years to study Avondale Mills and its employee-relations program at close range. To say the least, both are impressive.

Fringe benefits, including profit-sharing, are now a definite trend in the textile industry. It looks as though the trend will gain momentum rather than slow down. This report on Avondale's seasoned program may be useful in crystallizing a lot of mill men's thinking.

THOUSANDS OF WORDS HAVE BEEN WRITTEN about one phase or another of Avondale Mills' personnel program. Some of the accounts written have been newspaper articles that gave something of the statistics involved. Others were rather glowing inspirational articles written for a broad range of readers. From the viewpoint of textile-mill men, most of the articles left some important questions unanswered.

In this study of Avondale's relations with its employees, TEXTILE WORLD has attempted to tie the whole program up in one bundle.

Surprisingly, Avondale has about the same physical set-up that many other companies have. The several phases of the program can be found in operation in dozens of other mills. And they follow practically the same mechanics of operation.

But at Avondale the thing works.

Any experienced mill man knows that an old "lint head" can sort of sense the attitude that prevails in a company. He can walk into a department and in a few minutes have a pretty fair idea of what the score is between management and workers.

At Avondale the atmosphere is charged. You get the impression that the slack has been taken up, that the workers are busy because they want to be busy, that they know what they are doing and are anxious to get going with it.

How was that attitude accomplished and how is it maintained?

In the final analysis, that probably is the most important question we tried to get an answer to.

For a great number of years, a magic formula for "handling help" has been sought by mills and industry in general. Many formulas under many catchy names have been advanced. Practically all of them have a more or less set routine, which is supposed to be administered in accordance with the Golden Rule.

Also, practically all the systems bog down and become colorless, lifeless (and usually expensive) impediments. Then, when the bog-down becomes widespread and serious enough, the union or the government, or both, takes over.

In many cases, however, the picture is brighter. Human relations have not reached such a dismal impasse. Avondale is one of these bright spots. As such, it is worth studying.

Many criticisms can be, and are, fired against Avondale. Paternalism probably heads the field. Others include lack of formalized channels for carrying out the program, pouring money down a rat hole, perpetuating a stupendous promotion campaign, etc.

The facts remain, however, that as a business Avondale is a group of extremely well-equipped mills; a wide-awake organization that hits the competitive market a hard lick; a money-maker; and a firm with a large group of highly paid, hard-working, enthusiastic personnel.

What Avondale Is

The Avondale Mills organization consists of eleven cotton mills located in seven towns in eastern Alabama.

Five of them are in Sylacauga—a small Main-Street town located about 50 mi. southeast of Birmingham in the rolling pine-hill country. One of them—the first one owned by the company—is in Birmingham. It is the only one that is located in a big town.

The other five stretch along the eastern side of the state. They are located in Stevenson, in the northeast corner of the state; Pell City, 20 mi. east of Birmingham; Sycamore, 5 mi. north of Sylacauga; Alexander City, 25 mi. southeast of Sylacauga; and Lafayette, about 40 mi. east of Alexander City.

All the locations have one thing in common: an Avondale community.

The larger environment varies considerably. At one end of the pattern is the isolated mill and village, such as Sycamore. Midway of the pattern is a good-size small town such as Alexander City, which has another large mill not owned by Avondale and also an important surrounding agricultural and lumber-producing area. Then, at the other end of the pattern, is Birmingham, a sprawling, bustling, big-industry iron-and-steel city.

Regardless of the environment surrounding the smaller community, the vital economic and social force is Avondale and the Avondale "way of life."

THE AVONDALE PROGRAM stems from 72-year-old Donald Comer, chairman of the board of directors. "We're in partnership here at Avondale," "Mr. Donald" says.

On the statistical side, the eleven mills operate something over 1,100 cards, 265,000 spindles, and 4,600 looms. They use 3,500 bales of cotton a week. Employment is about 7,000.

Products include bed tickings, denims, chambrays, dress goods, suitings, seersuckers, corduroys, sheetings, draperies, industrial sateens and twills, sales yarns, and webbings and tapes.

Operations began in 1897 when B. B. Comer (elected governor of Alabama in 1906) bought the Birmingham plant. Operations are now directed by sons 72-year-old Donald, chairman of the board, and 58-year-old Hugh, president.

The bulk of Avondale stock is owned by members of the Comer family, but stockholders number about 600.

As textile mills, Avondale compares favorably with other modernized mills in the industry. Grounds, buildings, machinery, and equipment are kept in excellent condition.

"We're not philanthropists," said president Hugh Comer. "We're in business to make money."

Almost endless examples could be cited to demonstrate Avondale's habit of thinking forward.

Several years ago, when X-model looms made E-models unprofitable for heavy goods, they changed the Birmingham mill over to finer goods—at a profit.

When World War II was over, the prevailing higher wages encouraged mechanical materials handling. Said Alex Turner, general superintendent of the mills, "We'll spend any amount for any materials-handling installation that will pay for itself in a reasonable time."

Some of the research projects they engaged in were a non-woven fabric made of bonded card web, a drafting system that combined fly-frame and spinning operations, mechanical wrapping of cones of sales yarn, improved slasher sizing formulas, and automatic doffing of spinning frames. There were, and are, many others.

EMPLOYEE'S HOME. About 85% of Avondale's 7,000 workers have bought their homes. Company operates reasonable financing plans.

Avondale's Employee-Relations Program

The employee-relations program at Avondale has one aim: to help workers feel a justified security because of a partnership relationship.

The program has been tagged with many names, and the objective behind it has been colored with many glowing terms. But Avondale is strictly a "free-enterprise" company; it has money invested, and it wants that money to make more money and to be shared by every member of the team.

Since there has to be a boss, it wants to boss its own money-making process.

Broadly, the over-all program might be broken down into four classifications: (1) security, (2) health, (3) recreation, and (4) culture.

I. The Security Program

PROFIT SHARING. The most talked-about phase of the worker-and-family security program has been the profit-sharing plan. Besides paying the going wages, for 13 years Avondale has been sharing profits with its employees.

In 1938, a profit-sharing plan was started in the Birmingham plant. The plan was tried as an experiment. In 1941, it was extended to cover all the plants.

Here's how the plan works:

Net profit for the preceding twelve-week period is determined, and 5% per year on the stockholders' investment (equity in the company at the beginning of the current accounting year) is reserved. The remaining profit is divided 50-50 between the employees and the company.

An employee becomes eligible to participate when he has been with the company twelve weeks.

His share of profits is arrived at on a percentage basis. The total amount of profits to be divided among eligible employees is compared to the total payroll of such employees for the accounting period. The result is expressed as a percentage. The employee's earnings for the period are multiplied by the percentage figure to arrive at the share of profits due him.

He is paid by separate check each four weeks.

Results of the program?

More than $10½ million has been paid to employees, in addition to their wages. Profit-sharing checks have run as high as 41.5% of wages.

There have also been periods when there was no profit to divide.

In 1947, J. E. Warren, vice president of Avondale, told three TEXTILE WORLD staff members: "Since the plan started we've always had profits to share. It was pretty low sometimes—as low as 0.5%. We don't know what's going to happen when there is no profit money to pay."

They have the answer now. During the 1949 textile recession and again just before the Korean trouble, profits dropped and production was curtailed. In 1949, lay-offs occurred. The report is that morale was higher than ever. Workers tightened their belts and dug in to swing the mills back to the profit side.

HOME OWNERSHIP. "Rolling stones own no homes."

This might well be a slogan at Avondale. During the last few years, the company has made it easy for workers to buy homes. Besides selling its 932 company-owned houses (all of them to workers), Avondale has helped employees buy or build about 1,600 other homes.

A worker can finance a home in two ways. First, he can apply for a loan from the Federal Credit Union in operation at the mill. If that doesn't meet his needs, he can go to the company for a loan. More than $2,000,000 is due the company now for home-ownership loans to employees. Financing is at 4% per year on the unpaid balance.

Over 1,300 home and farm purchases have been made through the mill financing plan. Other hundreds were financed by the Credit Unions.

About 8 out of 10 Avondale workers are now home owners or members of families that own their homes.

RETIREMENT. Almost $6,000,000 is set aside for employees' old-age retirement. The trust fund, started in 1944, is supplied with annual pay-

THREE HORTON BROTHERS, Catherine Mill finishing department, receive three weeks' vacation pay each from Overseer J. B. Cook. The three brothers have over 100 years of service with Avondale, will soon retire with monthly cash benefits.

CLINICS at the hospital in Sylacauga attended almost 38,000 patients during one year. Care given ranged from first-aid to dental care and cancer detection.

ments out of earnings of the company. Workers do not contribute to the fund.

An employee becomes a participating member of the retirement plan on August 1, after he has completed one year of continuous service with the company.

As first set up, the plan specified that benefits could be obtained under four conditions:

1. Retirement at age 65.
2. Retirement at age 55, provided the employee had been with the company ten years and the company consented to his retirement.
3. Total or permanent disability while in the employ of the company.
4. Beneficiary of a deceased employee who was employed until the date of death.

At the annual meeting of the stockholders on last April 20, the plan was broadened. Under the latest ruling, it is not necessary for a worker to remain in the employ of Avondale. After ten years of continuous service, one-half the amount in a member's account is vested in him. For the next ten years, another 5% per year is vested in him.

Any time after the first ten years, the member can quit and elect: (1) to receive a small cash payment for his vestment in the fund, or (2) leave the money with the trustee until he reaches retirement age. At retirement age, the member can obtain cash payments or buy an annuity.

At the end of 1949, 652 members had their complete account vested in themselves (for 20 years of continuous service). Another 857 members had half or more of their account vested (for ten or more years of service).

The retirement plan has paid 307 members or members' families $297,212.38 since 1944.

As in the case of federal old-age benefits, the benefits increase year by year as the retiring members put in longer work periods under the plan. The first year the plan was in effect, the retiring members had an average account of $300.95. The members who have retired this year had an average of $1,597.03 in their accounts.

W. S. Jones—a tall, red-faced, pipe-smoking, alert man of 70—retired from his job as weave-room second hand in Eva Jane Mill in Sylacauga in May, 1949. He owns the five-room house he and his wife live in.

He said, "I get $14.46 a month as long as I live. That's not much, but it helps. I'm sorry that I had so few years with the company under the retirement plan."

II. The Health Program

Drummond Fraser Hospital in Sylacauga is the center of the health program. It is a well-equipped hospital, with 38 beds and a staff of 16 professionals. It is approved by the American College of Surgeons.

Statistics for one year of operation include:

Patients admitted	1,812
Patient days	9,490
Operations performed	1,044
Babies born	227
Clinic patients seen	37,861
Meals served	70,204
Laboratory examinations	34,495
X-rays made	994
Home calls made	16,350

In August 1944, the first industrial clinic in the United States for the detection of cancer was organized and put into operation at Drummond Fraser. Several hundred people, mostly women, are examined for cancer every six months. Several cancers have been found, most of them at a stage early enough to respond to treatment.

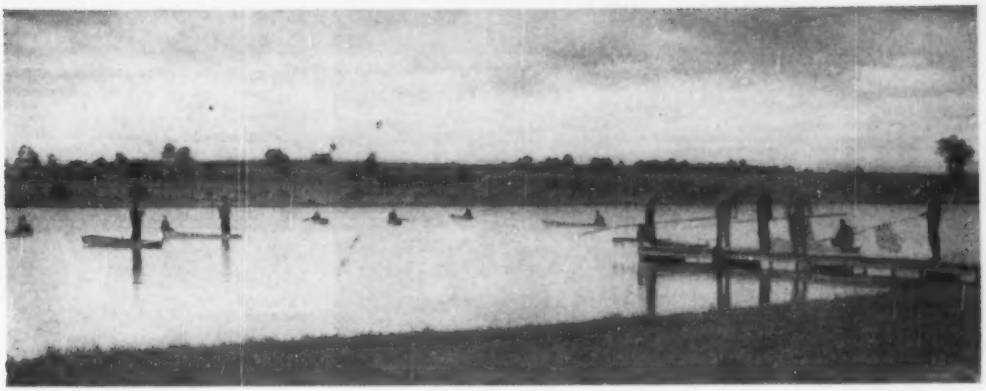
The hospital is owned and operated by Avondale Mills on a self-sustaining basis. It is available to an Avondale worker or his family in any of the Avondale communities.

Besides the health and dental clinics held at the hospital, clinics are also held at each of the plants not located in Sylacauga.

Medical, surgical, and hospital services cost an individual worker 43¢ a week and the head of a family 62¢ a week, paid through a group-insurance plan.

The practical effect of this program is illustrated by the case of George Bailey, in Sylacauga.

"When our last baby came," Mr.



FISHING is an Avondale hobby. If no other waters are close by, the company builds a lake and stocks it with fish.

Bailey said, "my wife went to the hospital for prenatal care, and the baby was born there. When I settled up with the hospital at the time of their dismissal, I owed just a few cents—less than a dollar."

III. The Recreation Program

Avondale's recreation program was planned to meet a broad range of needs. It provides facilities for seasonal and year-round participation by both individuals and families.

In nearly all the mill communities there are community buildings and athletic clubs that serve as centers of off-the-job activity. The buildings contain libraries; reading and lounge rooms; rooms for such small games as checkers, dominoes, billiards, and ping pong; gymnasiums; bowling alleys; auditoriums; sewing rooms; beauty parlors; barber shops; kitchens; and refreshment stands. Shower and

A CRUISE in the Gulf of Mexico aboard the 85-ft. Gomol is part of an Avondale outing. Transportation to and from Florida, meals, and sleeping quarters (for a five-day vacation) costs $6 per person—$1.20 a day.

ATHLETICS are open to all Avondale members who can take it. Here Hugh Morrow, who made trips to three major football bowl games as Alabama's quarterback and who is now an Avondale laboratory technician, gives the boys some fine points on baseball.

SUPERVISED PLAYGROUNDS are available to all Avondale children. Activities for children are provided from day-nursery age through high-school age. Programs from "cradle to grave" are a reality in an Avondale community.

COMMUNITY BUILDINGS are centers of worker and family activity. One in each Avondale community offers facilities for recreation, refreshments, meetings, receptions, etc.

THE A CAPELLA CHOIR at B. B. Comer Memorial School, Sylacauga, has won top honors in a state-wide contest for the last three years. Several other groups are organized to further music participation and appreciation.

locker rooms are available. In Birmingham, the community building also has a swimming pool. At other mills there are outdoor pools and lakes.

Parties, wedding receptions, and various club meetings are held in the buildings.

Supervision of the buildings is usually not a company function. In some cases, a board of directors elected by the members care for the building and guide the activities. In other cases, civic organizations, such as the American Legion, supervise the buildings. In all cases, however, membership is open to any employee of Avondale Mills.

Outdoor sports are an important part of the program. Any member of an Avondale community can burn up all the energy he wants to at such activities as baseball, softball, volleyball, handball, tennis, swimming, etc.

Each mill has its own athletic program. Expenses involved are paid out of the small profits earned by the "dope" wagons that circulate through the mill to serve lunches, candy, soft drinks, etc., to the workers on the job.

In 1937, a swimming pool was built for use by the Avondale community in Alexander City. It was paid for largely with contributions by the employees of the mill and friends of Mr. and Mrs. J. Fletcher Comer—as a memorial to them.

Swimming and fishing facilities are available in nearly all the communities.

Bands (a special project with Gov. Comer) are maintained in practically all Avondale communities. Well-trained music teachers are available also for training choruses and promoting group singing.

When the B. B. Comer Memorial School in Sylacauga was turned over to the county a few years ago, Avondale reserved only the right to contribute to the salary of the band leader "to make certain that we always have a top-notch director."

Scouting also is encouraged. Fifteen troops with an enrollment of about 300 are maintained in the Avondale communities. All Avondale camps and recreational facilities are available to the scouts.

Probably the most unusual phase of the recreational program is the provision of vacation camps. There are three of them: Camp Helen, on the Gulf of Mexico, 20 mi. west of Panama City, Fla.; Camp Brownie, on the Coosa River, 15 mi. from Sylacauga; and Camp Malone, in the mountains near Birmingham.

The river and mountain camps are used primarily for short outings and for special suppers. The Florida camp is a vacation spot.

During one summer, more than 3,000 Avondale people went to Camp Helen. Facilities include cabins, a central lodge, a 55-ft. sailboat, and an 85-ft. power boat.

Ten buses carry vacationers from the Avondale communities to the Florida camp. The vacationers spend three full days on the beach and return home in the buses on the fifth day. Transportation, meals in the lodge mess hall, and sleeping quarters cost each person $6 for the five days.

IV. The Cultural Program

As in practically all industry and in all communities, the three generations represented by Avondale workers (old, middle age, and young) attained different education levels. Many of the older workers had little or no formal education; the middle-aged group had "grade-school" training; and the younger workers, in the majority of cases, finished high school, and more and more are going to college.

Churches, kindergartens, schools, a cooperative college-attendance program, adult-education classes, concerts, music-appreciation and -participation programs, libraries, and reading rooms all contribute to community life.

Shortly after one of the adult-education courses, one of the workers said to an office worker, "I'm 63 years old, and today I did something I've never done before in my life—endorsed my pay check."

Of necessity, the cultural program is basically one of education and inspiration. One of the broadest ramifications of the profit-sharing plan is a strong lesson in "I am my brother's keeper." If one mill, for example, is

running six days a week and making a profit and another is on short time and showing no profit, workers in the profit-making mill share company-wide profits equally with the no-profit mill.

Churches in Avondale communities are as free agents as churches in any other communities. Where it was needed, the company has given financial assistance without regard to denomination. In several cases, buildings and land used for church purposes have been deeded to the church.

Extra-community activities—such as concerts by nationally known performers—are of keen interest to the company. The policy, however, is to foster community relations with the non-Avondale elements through personal participation by key men in the company.

Results of the Program

Avondale has made little effort to arrive at specific figures to evaluate results of the program.

The usual yardsticks of measurement—quality percentages, efficiency, labor and supply costs per pound, etc. —have little meaning when applied to Avondale. During the last several years, the company has undergone a wide conversion from relatively coarse gray goods to "styled" fabrics intended particularly for women's dress goods. Because of this and other physical changes, "Before-and-After" figures wouldn't have much significance.

Because of the Korean affair and the possibility of World War III, the labor picture is especially interesting now.

The personnel man at Sylacauga said, "Labor turnover? We as good as haven't any."

During the last war, there was a "negligible" amount of worker migration to war industries, but Avondale's only real labor-supply problem was replacing the men who went into the armed forces.

Absenteeism was about normal, considering the wider use of women and the sustained seven-days-a-week operation.

"We have to fire somebody now and then," R. L. Strickland, assistant foreman of carding at Central Mill said. "Not often, though. Everybody has a good feeling toward the company."

Mr. Strickland undoubtedly put his fingers on the most significant result of Avondale's program: *attitude* of the workers. Over and over as you talk with employees—key men, office workers, supervisors, machine operators, even retired employees—you hear such voluntary remarks as:

"Best company I ever saw."

"I wouldn't work anywhere else."

"I was a sort of rolling stone till I hit Avondale. Then I settled down."

"If a worker gets careless, it cuts in on our profit-sharing. It won't be long before somebody tells him something."

"Working for Avondale is not like working anywhere else I've ever worked. Everybody here is satisfied. They're not mad with anybody."

Is It Worth the Cost?

Avondale thinks so.

In spite of the fact that about $10,500,000 has been paid out in profit-sharing and another $6,000,000 has been set aside for retirement, the over-all program is being continually broadened.

One of the services now being seriously considered is self-help for retired members.

A short time ago, an employee had to retire at an early age because of a heart condition. His wife couldn't work, and there was a period of several weeks when there was no family income. The man grew despondent.

Then his former overseer heard about it. He got the personnel manager to go with him to see the man. The result of the conversation was that the former employee and his wife "went into business." They roasted peanuts in their home and sold them in the mill. Their earnings amounted to about $25 a week.

The most important thing, though, was that the man quickly adjusted himself to forced retirement.

A company program, backed by financial help where it is needed, is under serious consideration for the reorientation of retired workers who need such help.

Of course, $16,500,000 is a lot of money to spend on a tool. There undoubtedly are much less expensive means for providing motivation of workers.

The most evident one is closer supervision. An enormous amount of supervision could be bought for that much money.

That has been, and still is, the backbone of labor-management relations in American industry: supervision and the use of fear (job scarcity backed by several million unemployed). It is the cheapest possible method; and in slack times when jobs are scarce enough, it is effective.

Avondale has chosen the method of positive incentive rather than the method of negative spur. "It is an extremely long-range proposition," they say. "The chances are that other methods of motivation are cheaper, but Mr. Donald thinks that there are other things in life besides dollars. His philosophy is not try to make a man do; try to make him want to do."

Why the Program Works

In a nutshell, the program works because Avondale works at it.

To begin with, the program is administered with astonishing sincerity, openness, and enthusiasm. They have no hesitation to telling any worker the exact status of the company.

"Tell 'em just where we stand, and why we stand that way. Above all, tell 'em the truth."

Those are orders from topside. And they are carried out.

Several channels are used to keep employees informed on company operations, policies, and activities:

THE MEN WHO MAKE IT WORK. *Left to right,* **B. B. Comer, 3rd,** *director;* **J. Craig Smith,** *director and executive vice president;* **Donald Comer,** *chairman of the board of directors;* **Hugh Comer,** *president and treasurer;* **B. B. Comer, Jr.,** *chairman finance committee; and* **Comer Jennings,** *president and treasurer, Cowikee Mills, closely associated with Avondale.*

1. **"The Avondale Sun"** is a weekly newspaper distributed throughout the company. It is a down-to-earth publication used to broadcast company information and to keep Avondale members advised of social, community, and mill activities.

2. **Management and supervision lines.** From Donald and Hugh Comer down, management officials and supervisors work hard at spreading the news. No one is too busy to take time out to discuss Avondale benefits, policies, or operations. Avondale has developed to a high degree close relations between boss and worker. Next to "company," "Mr. Donald," and "Avondale," probably the word most often heard is "we."

3. **Bulletin-board notices.** Often-changed signs that help to spread information and stimulate workers are located throughout all the mills. Sycamore has been cited for its particularly effective use of signs.

4. **A labor-management expert** is retained on a fee basis for a twofold job: first, to help supervisors improve themselves and their groups of workers; and second, to maintain close relations with the workers in an effort to further the company's and the workers' interests by demonstrating value of their mutual partnership.

"I am not a company spy," the expert emphasizes. "I make no report to the company. I talk with the workers individually and in groups. I try to explain economic conditions and especially the textile-goods market. I'm completely sold on Avondale's program, and it's a pleasure to try to sell and re-sell workers on it."

Why the program works is due largely to the philosophy of Donald Comer and the personalities of Donald and Hugh Comer. While Mr. Donald is the heart and brain of it, Mr. Hugh is the voice and laughter of it.

But there are others that accurately reflect the Comer-clan spirit.

In 1947, during the Avondale fiftieth-anniversary mill tour, an excited little old lady well in her sixties skirted a group of well-dressed mill visitors walking through the yard of the Birmingham plant. She was dressed in a checked gingham dress and an old-time home-made gingham bonnet. Her lips were sunken from the lack of teeth.

"Mr. Bragg! Mr. Bragg!" she called to B. B. Comer, Jr., chairman of the finance committee. "I want you to see my garden."

Mr. Bragg left the tour and walked off with his arm around the little lady, leaning his tall frame over to listen to her and talk with her.

Without the sincerity of the men behind the program, without the skillful promotion they've given it, and without the brains and personalities of the Avondale officials, certainly the results of the program would not be what they are.

For years Avondale carried at the masthead of "The Avondale Sun" this quotation: "The function of industry is to take certain things that grow on the surface of the earth, or are buried beneath the surface, and convert them into sizes, shapes, and colors that the public wants, and to do that at the lowest possible cost, without any exploitation along the route."

Mr. Donald has as his goal: "Men to hire money more and more; money to hire men less and less; looking to the day when the men who use the tools will own them."

It's an old axiom that the attitudes of the top men of an organization are reflected all the way down the line. If that is true, a study of Avondale becomes properly a study of the men at the head of it.

Should Other Mills Adopt Avondale's Program?

Avondale would be the last to say that their program should be widely adopted. They say only, "It's right for Avondale."

Actually, all the phases of the program can be found in other mills. Not many mills have the complete program.

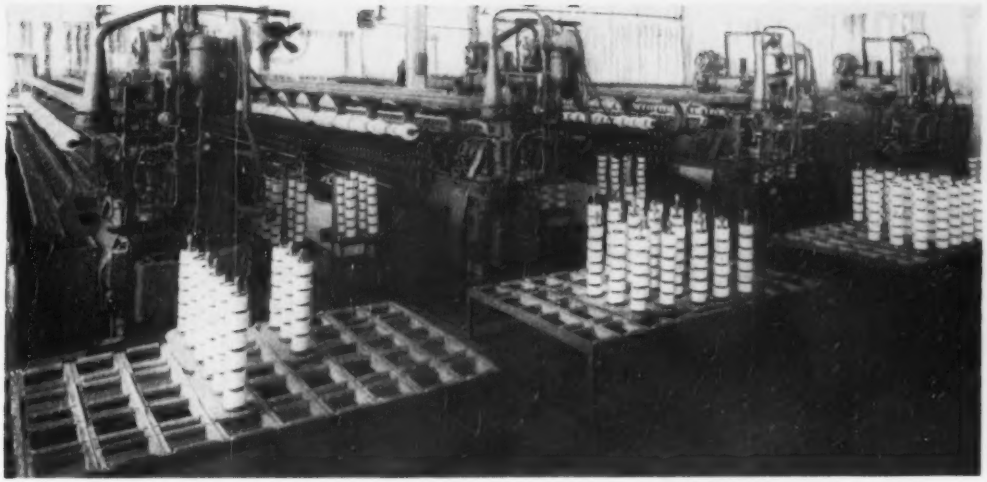
Before Avondale's program is adopted, a few searching questions should be answered. Some of the essentials might be the following:

1. Stockholders must be willing to accept a limitation on their dividends. They must be willing to forego the speculative angle of owning stock and be satisfied with year-after-year limited earnings.

2. Management must be willing to become sincerely "my brother's keeper." Labor exploitation is out.

3. Management must be willing to carry out a continuing intensive educational program to gain worker response and to cultivate worker self-respect. Any suggestion of patronage must be sedulously avoided.

4. And very important: Management must be of such character that a reflection of its attitudes and habits of thought all the way down the line would be a forceful stimulant to better working and better living.



Here's How to Up Barber-Colman SPOOLER PRODUCTION

▶ ***Are you getting the most out of your spoolers? Individual-machine productive capacity may be higher than you think—and it takes high production from each machine to get high over-all production economically. High efficiency is the keynote to increasing spooler production. Here's how to get it.***

By **HENRY P. LYNCH**

WHAT WOULD YOU SAY if you made a production test on a Barber-Colman spooler and found that you were getting only 490 lb. of yarn per hour out of a theoretically possible 857 lb. per hour? Would you let it go by saying that tailings account for most of the loss—or that the machine is just not efficient—or that the yarn just won't run right? Our mill had this problem, and we decided to find out why our efficiency was so low.

We had not thought much about efficiency on our spoolers before this test, because we were getting all the production we needed. Expansion of our plant made it necessary for us to either get another spooler or get more out of the ones we have. We decided to try to increase the efficiency and production of each spooler to get the added production.

Before we could increase the efficiency, we had to find out the factors affecting efficiency. We found that efficiency is affected by machine operation; type, size, and quality of yarn; efficiency of operators; and efficiency of the mill management. These factors are very closely related in the operation of Barber-Colman spoolers and were difficult to treat separately. However, we made a thorough study and, as a result, were able to increase the production of each machine enough to take care of our added requirements. Here is a breakdown of the results of our test.

1. EFFICIENCY OF MACHINE

The spooler itself loses production during the knotting operation and when it rejects full cheeses. When the traveler takes a bobbin from the reserve holder, finds the end on the cheese, and ties the yarn from the new bobbin to the cheese, the units affected are not operating from a productive point of view. Therefore, the speed of the traveler must be such that a minimum of production is lost in the knotting operation. The traveler should reach each unit at the time a new bobbin is needed. If you are using fairly coarse yarns, the traveler may make its round in, say, 4 min. On finer yarns, however, it may be more efficient for the traveler to make its rounds in, say, 6 min. Obviously, the slower the traveler, the greater the production—if the timing is correct.

You can calculate the lost efficiency per round of the traveler in the following way:

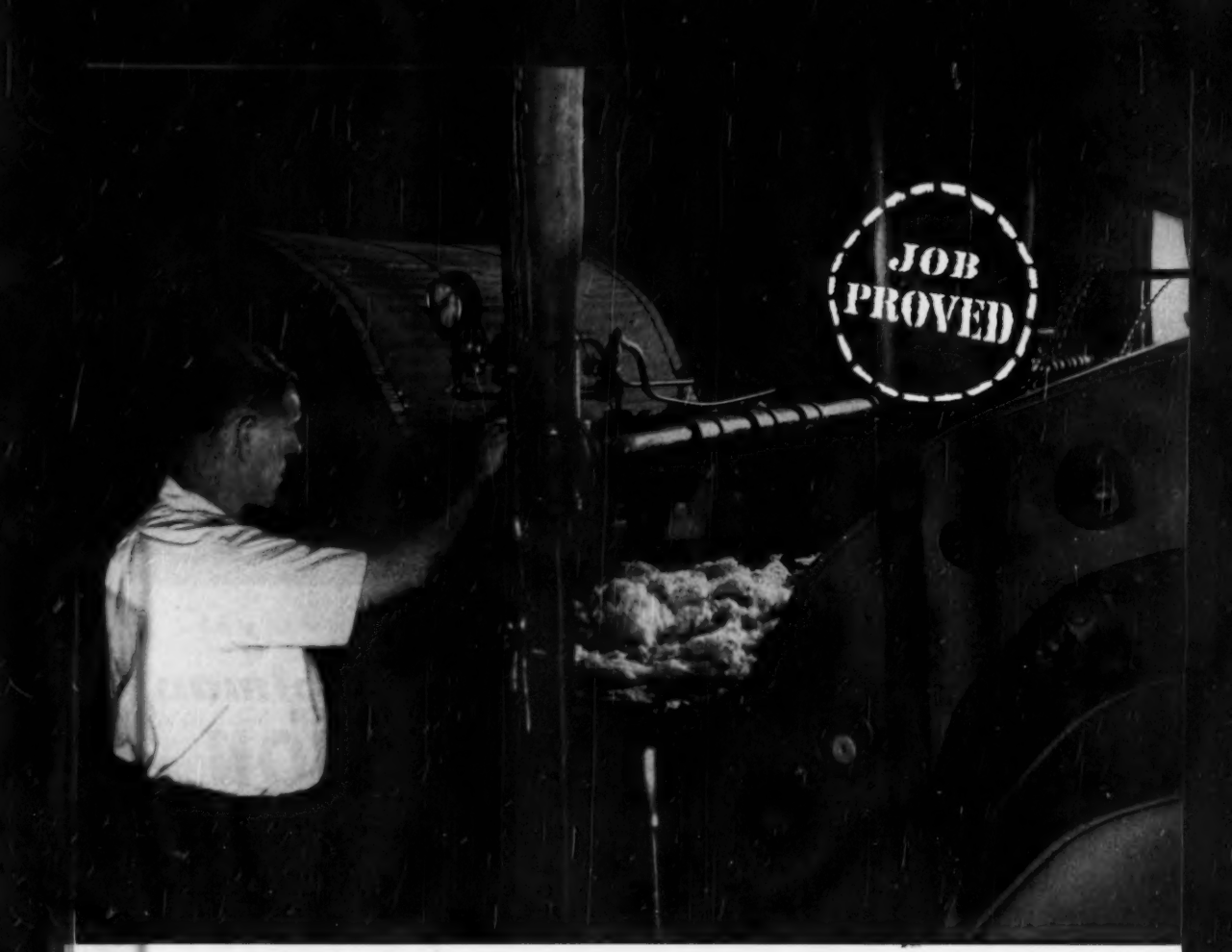
Divide the number of units by the knots per minutes—this calculation gives you the time occupied by the traveler in piecing-up the machine.

Since eight units are inoperative while passing through the traveler, the time for piecing-up multiplied by eight will give you the unit minutes lost per round.

The total possible productive unit minutes is the result of the number of units times the total minutes required for one round of the traveler.

The percentage of lost efficiency, then, is found by dividing the unit minutes lost per round by the total

(Continued on page 212)



"WOULD NEVER RETURN TO LARD OIL"

Sunotex Process Aid Proved 5 Ways Better By Well-Known Manufacturer of Carpets

Processing wool with lard oil or olive oil used to be the only acceptable practice. That was before textile manufacturers discovered the many advantages of Sunotex Process Aid. One good case in point is the experience of a well-known carpet manufacturer.

Until ten years ago this manufacturer would never have considered replacing his lard oil with an emulsifying mineral oil. But he changed his mind after a Sun representative induced him to make a careful and adequate test of Sunotex Process Aid. Why? Because five benefits quickly came to light. Sunotex, he found, scoured out better. It improved quality. It made the preparation of emulsions far easier. It kept his floors and equipment much cleaner. And it reduced costs. Today, his plant men state they "would never return to lard oil even if it was much cheaper."

The way that Sunotex Process Aid worked for this carpet manufacturer is just one example of how Sun process aids enable textile manufacturers everywhere to cut costs, speed production, improve quality, protect valuable machines. For complete information about our products for processing fiber, call or write the nearest Sun Office. The services of a Sun representative are available to you without obligation.

SUN OIL COMPANY • *Philadelphia 3, Pa.*

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SUN PETROLEUM PRODUCTS

"JOB PROVED" IN EVERY INDUSTRY

SUNOCO

Facts to Remember
About Rayon

▶ Spun-rayon yarns are only 80% as strong as equivalent-size filament yarns, and in finer counts this strength ratio often drops to as low as 50 to 55%.

▶ For every 5% increase in relative humidity, rayon loses 1/10 of 1% of its gram-per-denier strength.

▶ Rayon fabric strength equals individual yarn strength times the number of ends, picks, wales, or courses—modified by at least nine other variable factors.

Other Test Factors
To Remember

▶ No more than 4/10 of 1% of gram-per-denier tension can be put on rayon yarn without damaging it.

▶ The grab method of testing fabric strength (with a 4x6-in. sample) gives from 10 to 25% greater strength figures than the 1-in. strip test does.

▶ Loop strength of viscose yarns is only 60% that of straight strength.

How to Figure Filament-
Yarn Tensile Strength

▶ If you know the denier size of a continuous-filament rayon yarn and its gram-per-denier strength ratio, it is rather simple to calculate its tensile strength. Strength is equal to the product of its denier by its gram-per-denier strength.

▶ Take, for example, a 150-den. continuous-filament viscose yarn with a 2.4 gram-per-denier strength figure. The tensile strength of such a yarn, under proper relative humidity, is 360 grams (150x2.4).

Calculate With Confidence Your Rayon FABRIC STRENGTH

Tensile strength depends on

1. ***Type of yarn used***
2. ***Amount of twist in yarns***
3. ***Inherent stretchability of individual yarns***
4. ***Relative humidity of the yarns and fabrics***
5. ***Number of ends in one inch of cloth***

and on several other even-more-variable factors.

By ***RENÉ BOUVET***
Textile Research Dept., American Viscose Corp.

FACTORS CONTRIBUTING TO rayon-fabric strength are many. The influence of several of them on final fabric strength can be figured out ahead of time fairly exactly. Others, about which not very much is known, can be listed as "variables." This discussion will not include the variables.

Even eliminating the "variable" factors, we cannot treat the admittedly complex subject of rayon-fabric strength exhaustively. It is hoped, however, that we can crystallize our views on the influence of factors that have been reasonably investigated, and can thus create a provocative atmosphere for those which need more attention.

STRAIN CURVES. Fig. 1 shows the strain curve (amount of stretch or extensibility before breaking) of continuous-filament viscose, continuous-filament acetate, and spun-rayon yarn. In the early stage of the test, only a small fraction of the strength is revealed. Full strength is not recorded until the yarn breaks (at the top of each test line).

The 150/40 continuous-filament bright viscose is a 2.4 gram-per-denier yarn, so that (through the formula explained elsewhere in this article) its total tensile strength reaches 360 g., both actually and mathematically.

The 150/41 continuous-filament bright acetate yarn is of the 1.5 gram-per-denier type. Thus it breaks both actually and mathematically at 225 g.

The 30/1 spun viscose yarn in the third column of Fig. 1 actually sized 176 den. and was made of 2.1 gram-per-denier fiber. It does not reflect its total fiber basic strength (that is: 176 x 2.1 = 375 g.), but only 260 g., or about 70% of the original fiber strength. The reasons for such a loss in basic strength in a spun yarn are understandable, and will be touched upon later.

A comparison of the shape of the three strain curves is interesting as it discloses valuable information relative to the tension that the yarn will withstand without being damaged, as recorded at the dog-leg point in each of the three lines.

Another bit of information to be gathered from Fig. 1 is that the three types of yarns have different extensibilities. One can visualize that if a group of three ends comprising one of each type as shown should be subjected to a joint tensile-strength test, the lack of uniformity in their extensibilities would prevent them from reaching a tensile strength of 845 g., the total strength of the three individual ends. As a matter of fact, 675 g. would probably be the maximum reading reached, because at that point one of the three members would drop out of the team, and the total strength of the two other components would even be less than that.

SPUN YARNS. The tensile strength of spun yarns cannot be figured in the same manner as that of continuous filament.

Spun-yarn strength is affected by several elements: its fiber cohesive property and strength, length, yarn count, turns, and quality of spinning. A coarse count utilizes fiber strength more effectively than a fine count. Longer staple length favors strength. Twist, when under or over its optimum, works adversely; and then a spun yarn has the inherent weakness of being made up of discontinuous fibers.

It is true that the spinning process has for its objective the assembling in orderly fashion of discontinuous fibers, holding them together through inherent cohesion aided by the pressure exerted by twist. Yet, the state of discontinuity cannot be overcome by spinning; so under average conditions the ultimate yarn strength is likely to be less than the product of

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the yarn size multiplied by the staple gram-per-denier strength.

EXAMPLES. Take, for example, a 20s yarn (equivalent to 266 den.) made of 2.2 gram-per-denier fiber. It can be figured that if all fibers participated 100%, the tensile strength of the yarn would be equal to 266x2.2, or 585 g. Yet, even the better spun yarns of that count seldom show more than 468 g., or about 80% of the fiber strength. A 60s yarn (equivalent to 69 den.) with a theoretical fiber tensile strength of 196 g. will break at 108, or at 55% of the original fiber strength.

In fine counts, then, where the number of staple fibers to the cross section is reduced to the minimum, the effectiveness of the cohesive properties, plus twist, to utilize the fiber strength is usually considerably hampered.

It may be said then that while a continuous-filament yarn is 100% efficient in fiber-strength utilization, spun yarns reflecting high workmanship hardly pass the 80% mark. Moreover, the percent of fiber-strength utilization drops fast as the fiber count decreases. It reaches as low as 50% in fine counts.

EFFECT OF TWIST. The influence of twist on continuous-filament yarns is shown clearly in the first of the two twist charts accompanying this text. At 10 tpi., the 50-, 75-, and 100-den. yarns had 100% of their inherent strength as 2.20 gram-per-denier yarns. The 150-den. yarn was 2% stronger than it was in its original no-twist form.

At 20 tpi., the 50-, 75-, and 100-den. yarns were 2% stronger than originally, while the 150-den. yarn had reverted to its original untwisted strength.

At 30 tpi., the 50-den. yarn was still 2% stronger than originally, the 75-den. yarn was back to normal breaking strength, while the 100- and 150-den. yarns had passed their strength peaks and were now only 99 and 96% as strong as originally.

At 40 tpi., only the fine 50-den. yarn was still at original strength; the others were below original strength, with the 150-den. yarn the weakest percentagewise. Additional twist only extended the percentage-strength differences further.

Summarizing, one might say that finer-denier yarns attain their maximum strength with more twist per inch than heavier deniers. More work needs to be done in this field before any other broad statements are made, however.

(Continued on page 208)

Fig. 1. Strain Curves

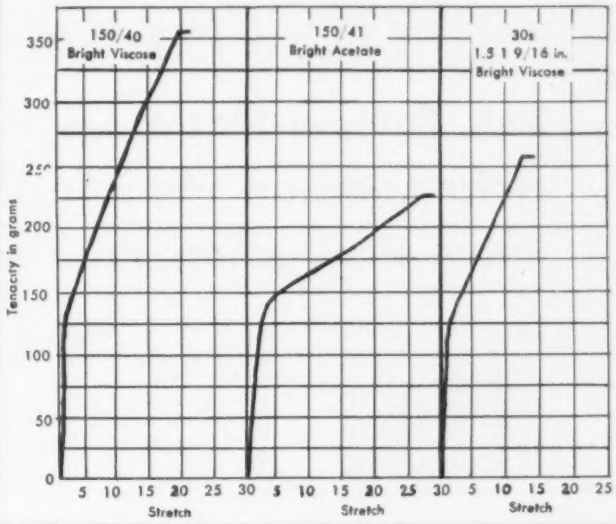
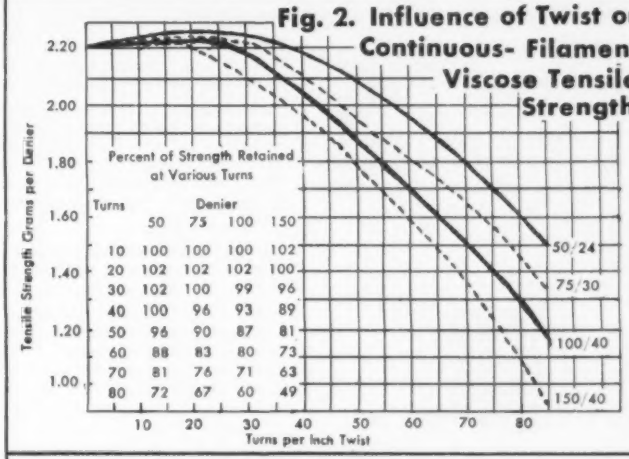


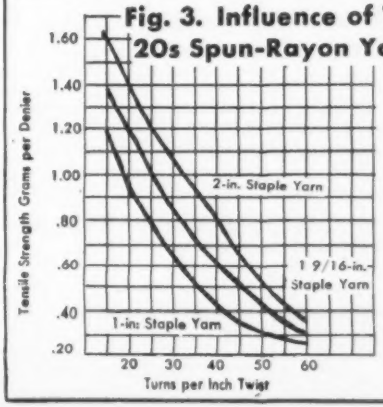
Fig. 2. Influence of Twist on Continuous-Filament Viscose Tensile Strength



Percent of Strength Retained at Various Turns

Turns	Denier 50	75	100	150
10	100	100	100	102
20	102	102	102	100
30	102	100	99	96
40	100	96	93	89
50	96	90	87	81
60	88	83	80	73
70	81	76	71	63
80	72	67	60	49

Fig. 3. Influence of Twist on 20s Spun-Rayon Yarn Tensile Strength



Percent of 2.1 gr./den. Original Fiber Strength Maintained in Yarn

Turns	2-in. staple	1 9/16-in. staple	1-in. staple
15	77	66	52
20	67	56	43
25	58	50	36
30	51	42	31
35	44	35	27
40	38	30	23
45	31	25	20
50	27	21	18
55	22	18	15
60	18	16	14

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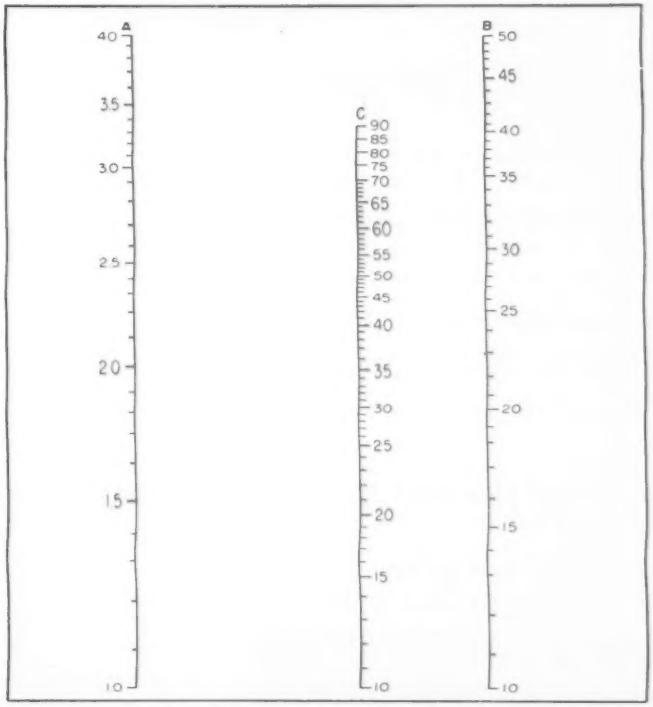
TABLE I – ROVING COILS PER INCH FOR CARDED COTTON

Integral Hank-Roving Number	Fractional Hank-Roving Numbers									
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.2	0.8	0.9
0	—	1.8	2.9	3.8	4.6	5.3	6.0	6.6	7.2	7.8
1	8.4	8.9	9.4	9.9	10.4	10.9	11.4	11.9	12.3	12.8
2	13.2	13.7	14.1	14.5	14.9	15.3	15.7	16.1	16.5	16.9
3	17.3	17.7	18.1	18.4	18.8	19.2	19.5	19.8	20.2	20.6
4	20.9	21.3	21.6	22.0	22.3	22.6	23.0	23.3	23.6	23.9
5	24.3	24.6	24.9	25.2	25.5	25.8	26.2	26.5	26.7	27.0
6	27.4	27.7	28.0	28.3	28.6	28.9	29.2	29.5	29.7	30.0
7	30.3	30.6	30.9	31.2	31.5	31.7	32.0	32.3	32.6	32.8
8	33.1	33.4	33.7	33.9	34.2	34.5	34.7	35.0	35.3	35.5
9	35.8	36.1	36.3	36.6	36.8	37.1	37.4	37.6	37.9	38.1

COILS PER INCH for any carded-cotton hank roving, based on a survey of mill practices, can be found on this chart. The value is divided into the lay constant to give the required lay gear.

New LAY GEAR Formula Gives More Accurate Results



NOMOGRAM based on the new formula for calculating new lay gear needed when old lay gear and hank roving are known needs only a straightedge for use. Ratio column at left equals the finer roving number divided by the heavier roving number.

A new, easy, and more accurate way to calculate the proper lay gear takes into account changes in density in different hank rovings and eliminates trial-and-error methods of finding the right lay gear. The old square-root formula is too rigid and can be especially inaccurate when changing to coarser hank rovings.

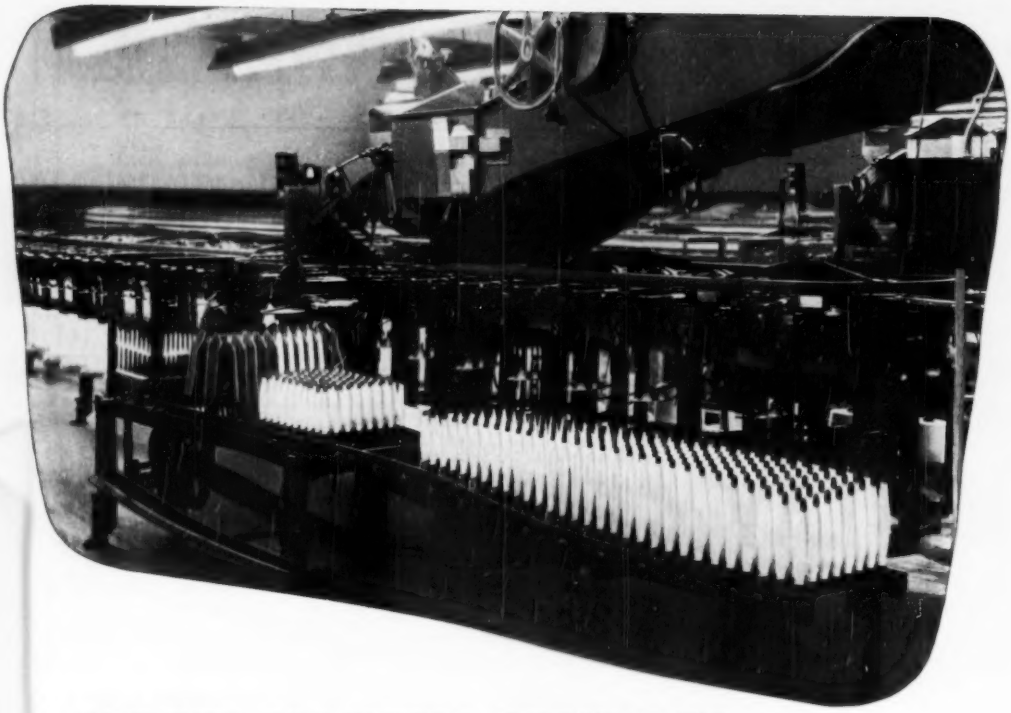
By J. F. BOGDAN
Dept. of Textile Research
School of Textiles, N. Carolina State College

A WIDELY USED FORMULA for determining the number of teeth in the lay gear required when the roving size is changed on a roving frame is: Gear needed = gear on frame × square root of hank roving on frame ÷ square root of hank roving desired.

This formula assumes that the densities of the two rovings are the same. So long as the change in roving number is small, the formula may have practical value. But for many manufacturing changes, especially when coarse rovings are dealt with, the formula does not give accurate results.

A NEW FORMULA

A better approximation for lay



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HOW THE NEW FORMULA WAS DERIVED

Roving Coils per Inch

The factors to be considered in a study of roving coils per inch, upon which the accompanying table and charts have been based, are (1) shape of roving cross section, (2) roving number or weight, (3) degree of compactness or density of the roving, and (4) space between adjacent coils.

The ideal manufacturing arrangement of roving coils is considered generally to be such that adjacent coils just make contact when subjected to the winding pressures. The separating space then has a value of zero.

E. B. Grover, head of the Yarn-Manufacturing Dept., School of Textiles, N. C. State College, completed a survey of actual manufacturing practices and obtained data for coils per inch for a range of rovings made from carded American cottons. These data were used to determine the relationship between coils per inch and hank roving.

From the data, an expression for coils per inch in terms of hank roving was determined:

$$\text{Coils per inch} = 8.37 \times (\text{hank roving})^{0.502}$$

The values on page 230 were calculated from this equation. It will be noted that the power of hank roving is approximately two-thirds, and not one-half as is generally believed.

An expression for the correct roving coils per inch for other fibers or blends can be found by fitting data to the same formula,

$$\text{Coils per inch} = a \times (\text{hank roving})^{b}$$

and determining the values of constants a and b.

Roving Density

Roving density is a function of the amount of twist inserted in the strand. As the material is drafted in the roving operations, the total effect of the cohesive force between fibers is lessened. To make up this loss in strength to an extent sufficient to allow the material to be drawn off the supply package without pulling apart, twist is added.

Twisting the strand of roving causes an increase in the degree of compactness or density. The rate of change of density with respect to twist is "high" for coarse, low twists when the material is loose and fluffy; and is "low" for fine, high-twist rovings.

This change is shown by the shape of the plot of coils per inch against hank roving in the chart on this page.

In contrast to the relationship shown in the chart, another formula is often used in textile manufacturing:

$$T = k\sqrt{H},$$

where T is the number of turns of twist per inch, k is a constant multiplier, and H is the roving or yarn number in hanks per pound. This relationship assumes that density remains constant for all twists.

Since a change in twist causes a change in density, the above-mentioned relationship is not valid and must be modified for effect of density change so as to obtain better approximations.

Lay-Gear Constants

The roving lay gear to be used for a given cotton roving number depends on the number of roving coils per inch desired. The number of coils per inch is determined by manufacturing experience, as indicated in the several paragraphs above devoted to roving coils per inch.

Attempts have been made to standardize this experience by using a set of constants: The proper constant multiplied by the square root of the hank roving gives a product which is said to indicate proper coils per inch.

These constants increase for progressive groups of roving sizes and serve as class multipliers. On the other hand, the effect which necessitates the change in multiplier has not been understood generally. This study on roving densities and coils per inch sheds some light on the multiplier problem.

---

gear needed is obtained by using the following relationship:

Gear needed = gear on frame × (hank roving on frame ÷ hank roving desired)$^{0.502}$

The accompanying alignment chart as well as the roving-coil-per-inch table are based on this revised relationship.

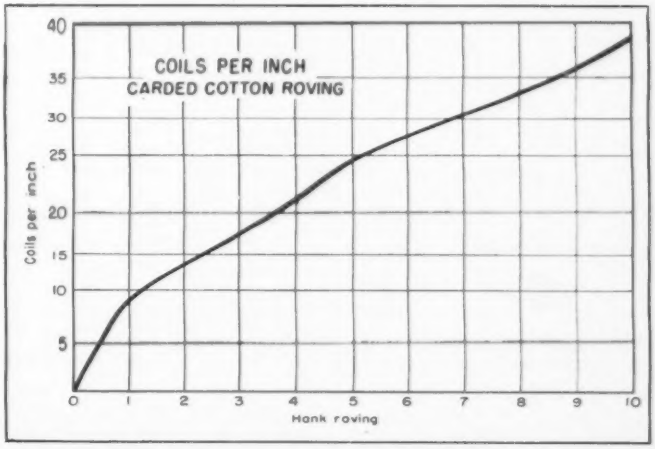
The results obtained from this revised method of calculating gears can best be compared with results from the formula ordinarily used through an example or two.

EXAMPLE 1

What lay gear is required on a roving frame when a change is being made from 0.5 hank roving with a lay gear of 28 teeth to 1.0 hank roving?

Under the old formula, the gear needed figures as 28 × square root of 0.5 divided by square root of 1.0, giving 19.8 or 20 teeth needed.

(Continued on page 230)



***DENSITY CHANGES** in roving caused by twisting the strand to hold it together vary slightly from the hank-number changes. Rate of change in density (coils per inch) is necessarily higher with coarse, low twists than it is with fine, high-twist rovings.*

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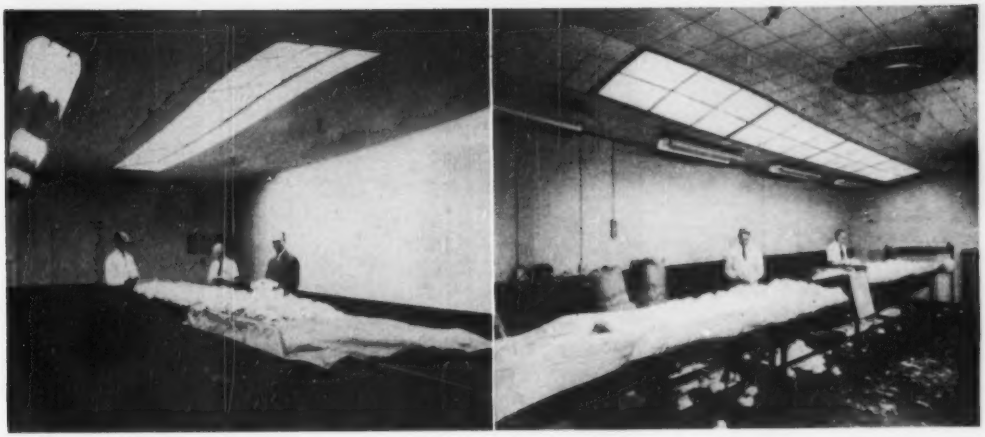

INSTALLATION METHODS differ in these two large classing rooms. On the left, four of the six-lamp units are set in the ceiling at an 11° incline. On the right, another 24-lamp installation fits flush in an inclined section of the ceiling.

Artificial Light Used for CLASSING COTTON

HIGHLIGHTS: *Mazda-lamp light is more uniform than north-sky light—Standard artificial light reduces cotton-classing differences—Intensity and color temperature must be correct.*

By **E. DALTON WHITE,** *Atlanta McGraw-Hill Bureau*

COTTON-CLASSING LIGHT comes from an installation of six 1,000-watt lamps at Linen Thread Co. Classer C. D. Clark finds light no limitation now.

GRADING COTTON by "artificial daylight" is proving of considerable value to the textile industry. A mill can now class its cotton at its own convenience rather than when weather conditions are right. Fewer differences between cotton-merchant and mill classing arise.

Linen Thread Co., Anniston, Ala., is finding its recent installation of artificial lights quite satisfactory. It is used in classing a fairly wide range of cotton grades and staples.

American and Egyptian cottons are used by the mill to make a number of sizes and grades of thread, twine, and rope. The mill's 27,684 spindles process more than 25,000 bales of cotton a year. At times, close to 500 bales are classed a day.

Before the new lighting system was adopted, a cotton-classing room was located in the warehouse. Now, the cotton-classing department has its own building. Classing is done during the normal work day and provides a steady flow of cotton to the mill at all seasons. To a degree, the necessity for large warehousing facilities has been reduced.

SIX-LAMP UNIT. The Macbeth installation at Linen Thread Co. consists of one fixture containing six 1,-

(Continued on page 216)

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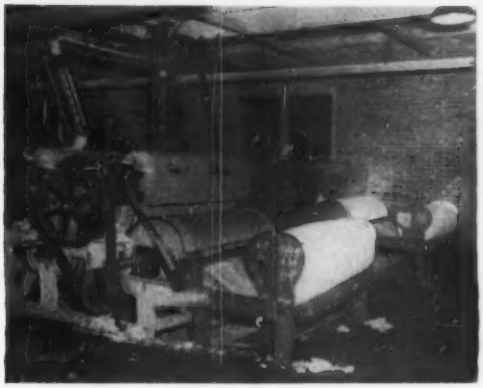
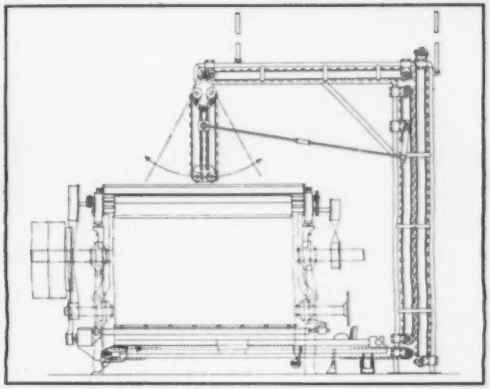


NEW METHOD OF CROSS FEEDING takes web from under side of second doffer, conveys it overhead to full width swing, and feeds it into feed rolls on third cylinder.



WEB IS FOLDED into feed rolls as is shown in this detailed drawing of the conveyor, swing arm, and feed rolls over third cylinder. Web falls on conveyor at bottom of second doffer.

Better FIBER BLENDING With Garnett Cross Feed

HIGHLIGHTS: *New feeder blends and cards fibers in one machine—Conventional feeder is expensive and requires additional floor space—New feeder easily attached without splitting frame—Result is improved blending of stock —Simple operation disconnects feeder when not required—Addition of feeder* increases flexibility and adaptability of garnett.

By E. H. HELLIWELL, *New England Editor, TEXTILE WORLD*

COMPLETE BLENDING of the various fibers in garnetted-stock mixtures is necessary to get a uniform product. Many types of garnetted stock are made from clippings, rags, and waste stock of varying colors, fibers, and characteristics. Adequate blending of these fibers of different appearances and characteristics improves the quality of the garnetted product and makes it easier to run on following processes. Blending often eliminates the need for dyeing or other treatment of the finished yarn and may produce a yarn of better quality and appearance.

The conventional method and the only previously satisfactory solution of this blending problem was the use of an intermediate feeder. The use of this feeder required splitting the frame and spreading the units to permit its installation. This spreading called for a space of 8 ft., which was needed for the intermediate feeder.

It was for the purpose of obtaining all the benefits of better blending and mixing that led to the invention of a new cross feeder by Steve Abrants, president and general manager of Abrants Garnetting Co., Woonsocket, R. I. Many tests and experiments made in the Abrants plant resulted in the development and design of the present cross feeder. The James Hunter Machine Co., North Adams, Mass., perfected the design and engineered the construction. The Abrants plant equipment consists exclusively of Hunter four-cylinder garnetts, equipped with cross feeders.

The conveyor on this type of feeder differs from the conventional intermediate feeder, as it requires no splitting of frame and no loss of space between units. The stock is combed from the under side of the second doffer in the four-cylinder set. The web from the comb falls on a traverse apron which carries it to a vertical apron at the side of the garnett. The web is then taken over the third cylinder, where it is laid with a full-width swinging folder into two feed rolls added to the third main cylinder.

At the option of the operator, different stocks demanding different treatment may be run directly through all four cylinders without using the cross feeder. This change is made by removing belt from the doffer comb drive, and the stock then runs through directly to the next cylinder.

The direct passage of fibers through cylinders is easy on the fibers, because in this method the fibers are fed in parallel lines. The cross feeder presents fibers at right angles to teeth on the third cylinder. This cross-feed treatment increases cleaning and blending, but it is not suitable for all types of stock. Converting from straight-line feed to cross feed makes any garnett line flexible and permits correct treatment of all stock types.

The stock follows through in a straight line through all processes: from the sorting of the clips and the thorough mixing of selected stocks for each type of blend, to uniform feeding to first garnett, removal of web from second cylinder by doffer comb, delivery of cross feeder to third cylinder, and the rolling up of the web on the finisher section.

From the care taken in all steps of the process of garnetting, it is evident many factors are responsible for fine-quality work. It is also apparent that an efficient method of cross feeding does greatly improve the quality and uniformity of the finished product.

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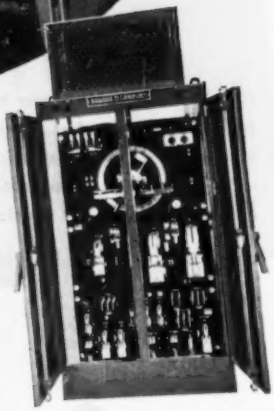
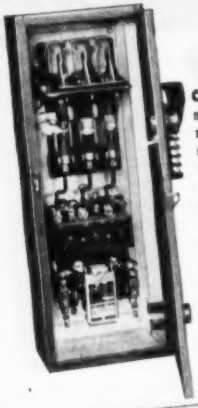
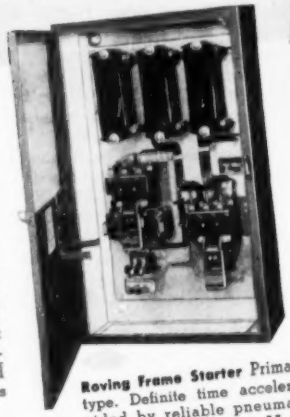
Loom Switch Toggle operation with recessed handle. Protected type overload relays for group fusing. Accessible terminals. Available with line connections either top or bottom. Cover interlock with padlocking provision for maximum safety.



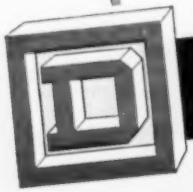
Range Drive Control Custom-built control for padder, tenter, winder, folder, pre-dryer, batcher machines, and other special textile machinery control applications.



Combination Starter New switch operating mechanism provides maximum safety. Interlock prevents opening door when disconnect is "ON" and self-aligning handle indicates true position of switch. Provision for 4 padlocks. New switch design has visible blades; quick make and quick break; dead-front line terminals. New magnetic starter with guided motion of armature insures long life.



Roving Frame Starter Primary resistor type. Definite time acceleration provided by reliable pneumatic timer. Available in NEMA I or IA enclosures.



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Exploring THE TEXTILE COMMUNITY

By MILDRED BARNWELL ANDREWS

RECREATION AS AN AVOCATION

MILDRED ANDREWS

I PICKED UP THE TELEPHONE and called the dentist who had been recommended a few minutes before by one of my textile friends in that town. "It doesn't hurt, exactly," I said when he answered, "but I've lost a big filling, and I sure do wish you could give me an appointment today. I am just here this afternoon, and go on to Georgia tomorrow."

"It seems to be an emergency," said the dentist in a kindly and apologetic voice, "but the office was going to be closed this afternoon." He added, it seemed a bit wistfully, "We were all going to the ball game."

I remembered. I had just left the mill whose team was battling it out today, headed for the league championship. All the mill staff had been anticipating the ball game with obvious excitement. The showcase in the office was already filled with trophies of the past year, but the boys were sure they could squeeze in just one more this year. I was not too surprised that the entire community was excited, and I caught some of the enthusiam in spite of a prospective toothache. "Well, put it off then, 'til tomorrow," I said, "and I'll go to the ball game myself!" Ever since Lou Brissie, who at one time played on the Riegel Mills Textile Team at Ware Shoals, S. C., was ranked by the Philadelphia Sports Writers Association as one of the two most courageous athletes of 1947, every boy on a textile ball team has been a potential Brissie in the eyes of his fans—including my dentist and me.

DEMOCRACY IN ACTION. In such towns, community relations of the better type thrive—and where we find good community relations we find the bedrock upon which public relations and industrial relations are built. Getting the community to like a company and the people who work for it can in the long run make a successful community; and at the same time, community prosperity and goodwill are reflected back to the company. Through sharing recreational and sports facilities, the town and the company become friends—the doctor, the grocery clerk, the lawyer, the mill workers, and the company executives. Mutual interests and civic patriotism are lifting the old line of demarcation between mill and town people.

This is everywhere. In Massachusetts a textile executive said, about a year ago, "There was a time when a cotton mill like ours was taken for granted in the community. But now, it's taken to heart." The company gave as one reason for the change the fine community recreation field it had built. In winter the field is transformed into a skating rink. Its bowling alleys, cafeteria, and community hall, open all year, are heartily enjoyed by all the townspeople.

Health and recreational facilities today in mill communities have become so much a part of textile-community living that they are accepted by workers as a matter of course, but they are often far superior to those found in communities of comparable size elsewhere. In many instances today, community projects are joint investments on the part of mill interests and the town. In North Carolina, the only textile state that has a state recreation commission, many recreation projects have been engineered. Such projects, jointly financed by local textile mills and the community, include the splendid recreation centers at Mooresville, Hickory, and Shelby, where mills and towns both put up sums involving several hundred thousand dollars. In other cases throughout the textile areas, mills have built the recreation spots as adjuncts to the textile com-

(Continued on page 222)

Red Feather Message

Following is a pertinent message by two important men. It is a reminder that this year over 1,250 cities will run federated Community Chest campaigns. More important, it reminds us that the success of these campaigns this year and every year in many areas depends largely on the active support of the textile community.

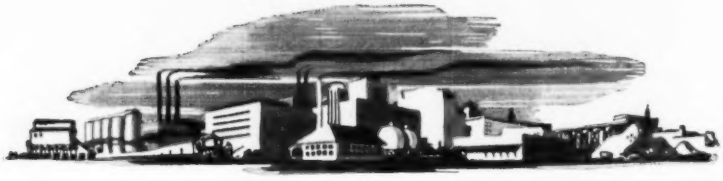
"This year, Community Chests are uniting more than 15,000 health and welfare agencies in one big effort to raise approximately $190,000,000. This is to help finance such typical Red Feather services as Boy Scouts and Girls Scouts, Maternity Homes, Visiting Nurses, Family Service, Travelers Aid, Neighborhood Houses, and Legal Aid. Included too are Boys' Clubs and Camp Fire Girls, Urban League, Children's Aid, Hospitals and Clinics, and Services for the Aged. The Salvation Army, YMCA, YWCA, summer camps, clubs for girls, aid to the handicapped and social-hygiene services are also members of the Red Feather family.

"Being businessmen we see the advantage of uniting these many campaigns under one efficient, fund-raising organization. Industry *knows* that production costs drop as volume increases. Over 30 years' Chest experience *proves* that coordinated campaigns cost less, save time and energy and raise more money to provide more and better services. Big or small, federated campaigns guarantee effective use of the funds subscribed. They substitute order for the chaos that comes with every separate fund-raising effort."

Charles E. Wilson, National Campaign Manager
Community Chests of America
(President, General Electric Co.)

Charles E. Wilson, Vice-Chairman
(President, General Motors Corp.)

How to spend $391.25 once and *Save $2160 Every Year!*



This is the actual experience of a Harrisburg Pa. firm* that stopped the kind of profit loss which may be hidden in YOUR plant, too!

In a material handling survey, lubricating of machines came in for its share of attention. The head of production called in an Alemite Lubrication Engineer to help him spot possible ways to cut costs. They found a way to lubricate machines that added 30 minutes more production daily. The total investment in Alemite equipment was $391.25! The saving in production time—in addition to a 60% reduction in lubricant used—comes to $2160 a year!

*Name on request

No matter what size or type of plant you operate, Alemite can show you dozens of examples of amazing savings through more efficient handling of petroleum products. These are facts which you can readily confirm in your own time studies. Contact your local Alemite Industrial Distributor now. Or send for free booklet, "11 Ways to Cut Production Costs." Simply attach coupon below to your letterhead. Alemite, Dept. J-100, 1850 Diversey Parkway, Chicago 14, Illinois.

ALEMITE

MEANS EVERYTHING FOR LUBRICATION

1. Methods 2. Lubricants 3. Equipment

Another Product of Stewart-Warner

Alemite Cuts Costs 3 Ways

1. ***In Transferring Lubricants...*** by eliminating mess, expensive contamination—and cutting man hours 63% for every 100 pounds of lubricant transferred.

2. ***In Loading Grease Guns . . .*** by saving 3¾ man hours for every 100 pounds of lubricant loaded into hand guns.

3. ***In Applying Lubricants . . .*** by saving up to 23.9 man hours for every 100 pounds of lubricant applied to bearings.

FREE! New Booklet—

"11 Ways to Cut Production Costs"...

(simply attach to your letterhead)

Alemite, Dept. J-100
1850 Diversey Parkway, Chicago 14, Ill.

Please send me without charge or obligation your booklet "11 Ways to Cut Production Costs."

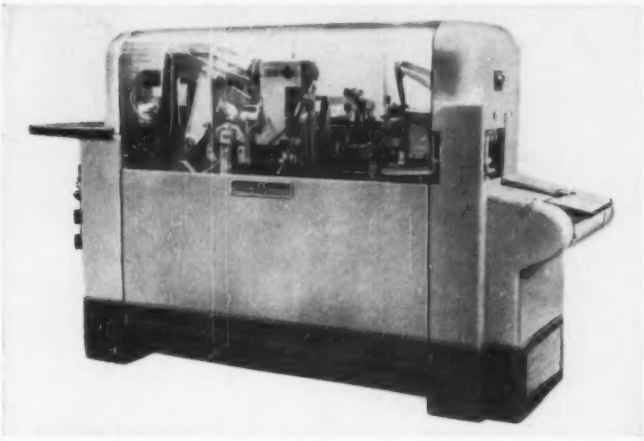
Name _____

Company _____

City _____ *State* _____

TEXTILE Equipment NEWS

Stockings Packed and Labeled Mechanically



TWENTY TO THIRTY STOCKINGS per minute can be automatically packaged in cellophane bags and labeled by this new automatic stocking packer.

The Whitehall stocking packer, designed to mechanize the operation of inserting stockings into cellophane packets, has been developed by Strachan & Henshaw, Ltd., Bristol, England. The machine will also fold the packets and secure them with a self-adhesive label to make an attractive unit package. A prototype of the machine has been in use in the factory of a leading British hosiery manufacturer.

The machine uses cut-off bags (without lip or flap), either plain or printed, in a size of 6¾ to 7¼ in. in width by 7 in. ±⅛ in. in length. The machine will pack stockings which can be "short folded" to a length of 9½ to 10 in. Thickness of stockings is limited to those which will not exceed ½ in. maximum thickness in the finished package.

The machine can handle fine-gage nylons as well as heavier stockings. Pieces of paper or very thin cards can be inserted into the bag with the stocking if suitably folded into the stocking previously. The use of such an insert is beneficial for fine nylon stockings, as feeding is thereby made easier.

Stockings are fed into the machine by an operator who places them on intermittently moving belts during the stationary period. They are centrally placed on the belt against a layboard which can be adjusted to give the desired location. The feed operator receives the stockings "short folded" and can place them either side up on the belts according to the style of pack desired. The feeding operator endeavors to load the machine fully, but misses are automatically allowed for, and the running speed can be varied to suit the type of stocking being handled, or to suit the speed of the operator. Bags are placed in the hopper prior to the beginning of a run. The hopper holds about 500 bags.

Packets of stockings are delivered in counted piles of six. The delivery operator inspects the packages and packs them into boxes.

The tab-feed unit uses two reels of material—one of self-adhesive cellophane tape, the other of wide cellophane tape which may be printed with size or other identity markings.

The standard machine is supplied for 3-phase a.c. only, but can be adapted to a wide range of voltages. The main drive motor is 3 hp.

The machine occupies a floor space about 9 ft. by 2 ft. 9 in. in size and stands about 5 ft. high. The feed is arranged for an operator sitting on a normal chair and the delivery for an operator sitting on a high stool.

The operating speed of the machine is between 20 and 30 packets per min.

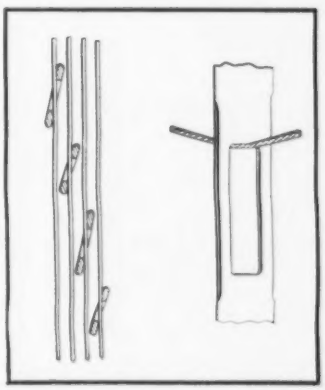
To request further information, please use the card in the Reader-Service dept.; refer to T-3.

Rectangular-Eye Heddles Reduce Friction on Warp

A new line of heddles with a rectangular-shaped eye which is said to reduce friction on warp yarns has been introduced by H. J. Theiler Corp., Whitinsville, Mass. The rectangular-shaped eye in the new Slide-Tax heddle is said to give the warp yarn a larger surface on which to rest. When heddles are crowded on a harness frame in order to save space on a heavy-sley warp, the yarn is given an even greater surface on which to rest and is not forcibly changed in direction while going through the heddle eye. Thus, the strain exerted on the yarn in passing through the heddle is considerably reduced. The Slide-Tex heddle also takes up less space in a harness frame than other types of heddles, it is claimed.

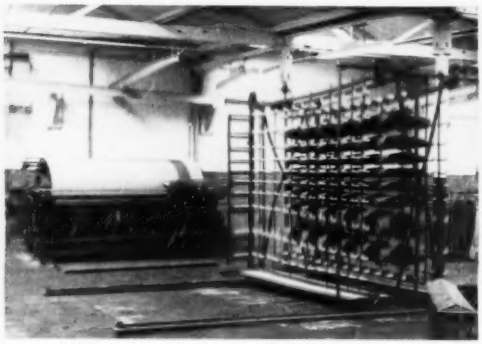
The heddles are made of carbon steel, are very springy, and are provided with a double rust-protecting surface (copper and nickel plated).

To request further information, please use the card in the Reader-Service dept.; refer to T-11.

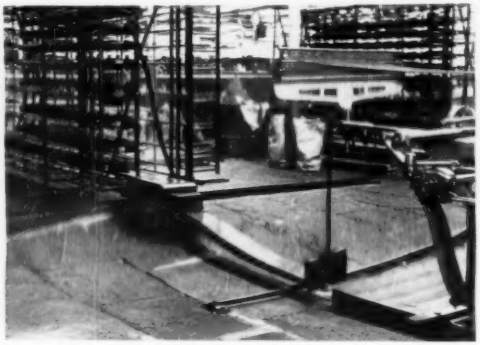


YARNS PASS IN A STRAIGHT LINE through these new heddles with a rectangular eye and are not forced to change direction. Less chafing on the yarn is said to result.

Automatic Creel Mover and Tension Control Improve Worsted Warping



A SOLID SWIFT is used in the new warper developed by John Hattersley and Sons, Ltd.



THE CREEL moves automatically as the headstock moves, to build up the section being warped and when a setting for next section is made.

Several new and interesting developments in worsted warping perfected by D. R. H. Williams, director of John Taylor, Ltd., of England, have been announced by Thomas Holt, Ltd., Rochdale, and George Hattersley and Sons, Ltd., Keighley, both of England.

Improvements made in the Holt creel include an automatic creel mover which moves the creel for each section of the warp in order to maintain a constant angle of the yarn between the creel and the swift. The danger of the failure on the part of the warper operator to move the creel for each section of the warp is thus eliminated. The mechanism automatically moves the creel as the headstock moves both to build up the section, and when a setting for the next section is made.

The new creel also warps from an over-end package. A number of porcelain eye guides to carry the yarn from the cones which lay farthest away from the warper have also been installed. The cone pegs have been mounted at a slightly upward-inclined angle to assist in keeping badly formed cones firmly in place on the pegs.

To prevent full packages from giving a springing effect to the horizontal bars carrying the cone, which makes it difficult to fix the cones firmly into position, horizontal supports have been added to brace the horizontal bars. The supports are placed 18 in. away from the end of the creel.

Several 1-in. diameter chromium bars have been placed 3½ in. away from, and level with, the tension motion. Steamed twists, which otherwise may snarl badly, can be wound once or twice around these bars to keep snarls from getting into the warp.

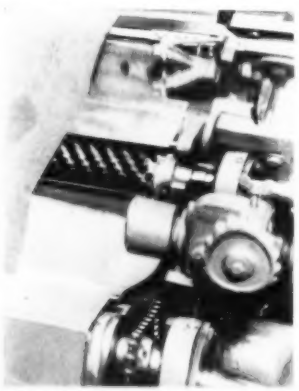
The warping machine itself now has a solid swift 5 ft. in diameter and a 10 in. ramp at an angle of 10°.

A simple roller tension control maintains an even tension on all ends as they are wound on the swift. The degree of tension is shown by a pointer against an appropriate scale.

The results of the improvements in the warper and creel are said to be better selvages, less movement of the cloth in the loom, and a reduction of 15 to 20 lb. on the tension lever in the loom.

To request further information, please use the card in the Reader-Service dept.; refer to T-26.

Chemical Treatment Preserves Wooden Brushes



ROTTING IS ELIMINATED in the wood core of these new brushes through a chemical treatment which resists water, fungi, and stains.

A new chemical treatment for the wood part of wooden flat brushes has been developed by M. W. Jenkins' Sons, Inc., Cedar Grove, N. J., in cooperation with Dow Chemical Co. The new chemical treatment protects flat brushes from chemicals and moisture and is said to lengthen brush life four times. The chemical treatment is called Lifewood.

The Lifewood treatment is said to be impervious to fungi and termites and to resist stain. Destruction of the wood to decay or rot is eliminated. The treatment penetrates the wood, fills and seals the porous cells. After treatment, the brush is neither injurious to the handler nor to the product, has no objectionable odor, and is noncorrosive to metals. The finish has maximum resistance to volatization, and does not discolor wood unfavorably.

To request further information, please use the card in the Reader-Service dept.; refer to T-28.

Positive Knock-Off

Prevents Fabric Damage

A new positive knock-off device for use on piece-dye kettles and washers has been developed by Riggs & Lombard, Inc., foot of Suffolk St., Lowell, Mass.

In the case of a piece-dye kettle, an improved adjustable guide rail is connected to the electric knock-off device for shutting the machine off in case of a tie-up. Because of the shape of the pins used, a positive knock-off is said to be assured.

The mechanism is said to have been thoroughly tested in numerous installations and to have proven highly successful.

To request further information, please use the card in the Reader-Service dept.; refer to T-5.

Serving The Textile Industry Since 1899

TWO GOOD REASONS FOR USING

SONOCO

STRAIGHT SIDE WARP SPINNING

BOBBINS

1 BETTER QUALITY YARN

The SONOCO Bobbin's *straight side* allows a constant angle of yarn pull over the entire stroke. This gives uniform tension and results in more uniform yarn with a constant degree of elasticity throughout.

2 INCREASED PRODUCTION

The *straight side* allows full traverse permitting a larger package. Also, the SONOCO Bobbin is driven from the *top*, and this top suspension cuts doffing time by breaking sharply without drag or pull. These features mean an important savings in production costs.

Only SONOCO makes the straight side paper Bobbin. For further details contact your SONOCO representative or write direct to the nearest office.

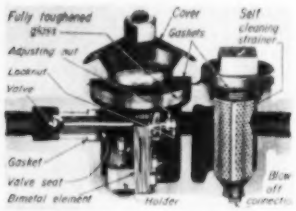
sonoco — "Where The Yarn Is" — PAPER CARRIERS — REG. U.S. PAT. OFF.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT | HARTSVILLE S C | MYSTIC CONN

DEPENDABLE SOURCE OF SUPPLY

Steam Trap Combines Five Units in One



A NEW STEAM TRAP which combines a steam trap, air by-pass valve, check valve, strainer, and control glass all in one unit, has been developed by Velan Engineering Co., 1216 Drummond St., Montreal, Canada. Use of the new trap eliminates the complicated piping required when the five units combined in this valve are used separately.

The new trap is made in one orifice size only—½ in.—but is said to discharge more than the average 1¼-in. trap. Advantages claimed for the new valve are quick warm-up, more production because of the fast warm-up, no air binding or steam locking, and use of less steam.

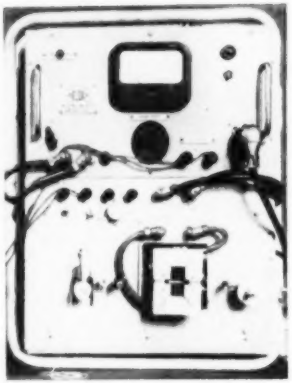
To request further information, please use the card in the Reader Service dept.; refer to T-18.

Electronic Device Measures Yarn and Sliver Uniformity

A new yarn and sliver uniformity testing machine perfected at Manchester College of Technology (England) is available from Fielden Instrument Corp., 2920 N. 4th St., Philadelphia 33, Pa. The instrument will handle sliver, roving, and yarn.

The instrument uses a modified Fielden dielectric comparator and indicates variations in weight per centimeter along the material being measured. A continuous record of the variations is shown on a cathode-ray oscillograph or pen recorder.

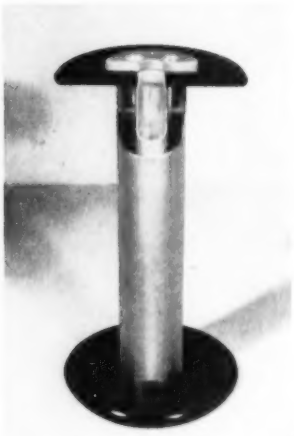
The basic principle used is that of measuring the change in capacity caused by introducing material into the gap of a fixed air condenser. The change in capacity, under certain conditions, is proportionate to the weight of the material introduced. Machine is said to test cotton counts as high as 250s. The correlation coefficient between output and weight is said to be 0.97 to 0.98 over the complete range of materials.



YARN COUNTS as high as 250s as well as sliver and roving can be tested for uniformity.

To request further information, please use the card in the Reader-Service dept.; refer to T-21.

Twister Spool Said To Be Indestructible



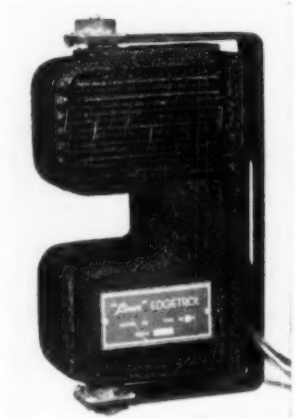
THE SPINDLE SLEEVE of this new twister spool is statically and dynamically balanced to reduce spindle-bearing maintenance.

A new twister spool said to reduce vibration, hold more yarn, and to reduce spool- and spindle-bearing-maintenance cost, has been developed by the Akron Spool & Mfg. Co., P.O. Box 142, Cuyahoga Falls, Ohio. The new spool has the following features:

1. Spool ends are of hard, calendered fiber or reinforced bakelite; are smoothly finished, durable, and replaceable.
2. A swaged spindle sleeve provides spindle clearance and eliminates binding.
3. Precision resistance welds are used in several places for added strength.
4. An inverted retainer plate gives great rigidity and holding power.
5. Special, heat-treated, rust-proof screws hold spool assembly together and enable quick replacement of parts. Screws will not shake loose.
6. Cylinder barrel is made of welded, rust-proof, plated steel tubing.
7. The spindle sleeve is of precision construction, gives inherent static and dynamic balance which reduces spindle-bearing maintenance.

To request further information, please use the card in the Reader-Service dept.; refer to T-23.

Light Beams Guide Fabric Feeding to Machines



TWO LIGHT BEAMS are used in this electronic device for edge guidance of materials into tenters or printing machines.

Automatic edge guidance for fast- or slow-moving fabrics feeding into tenters or printing machines is provided by a compact, dual-beam, transmitted-light electronic system developed by Airlectron, Inc., 110 Washington St., New York 6, N. Y. Interesting fea-

Strength

Needle breakage costs money. That is why every Textile Spring-Beard Needle is strong at the butt, strong at the shank, strong at the beard . . . strong at every crucial point. The strength of Textile Needles is the result of a special steel formula, superior tempering, careful balancing of needle resiliency and needle length.

Strength is just one of the many advantages you get in Textile Spring-Beard Needles — advantages that add up to better fabrics, bigger profits.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile
SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

 For more information, write direct or use Reader Service post card.

tures are a new swivel correction-range adjustment which eliminates all mechanical parts; aircraft-type vibration-proof mounts; unit-contained amplifiers which permit operation of the sensing head at any distance from the control station without the necessity for coaxial wiring; manual push-button station; automatic cut in circuits; and fail-safe operation.

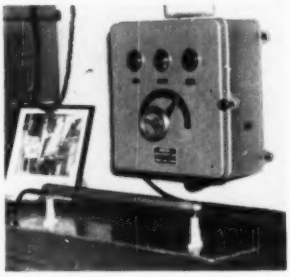
The cast-aluminum sensing head is designed for mounting in restricted spaces; it measures only 3½x4x8 in. The main control station, also compact, may be mounted at any desired distance from the control point, and handles up to 3 hp. or any electro-hydraulic system.

The sensing head contains all working parts except the relays and transformer. Two narrow beams of light project from the upper to the lower compartment through a slot in which the material moves. The beams are so located that the material normally intercepts one beam. If the material goes inward, intercepting both beams, correction takes place in one direction; outward movement, opening both beams, causes the opposite correction.

Two models are available for different degrees of accuracy; Model 5 for 0.03 in. total, and Model 6 for 0.005 in.

To request further information, please use the card in the Reader-Service dept.; refer to T-17.

Fielden Introduces New Moisture Meter



THE MOISTEKTOR is housed in a splash-proof cast aluminum case. The only control is a large calibrated handwheel which can be locked in any position.

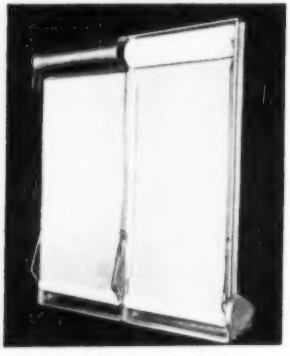
A simple, compact, electronic device that gives a continuous indication of the moisture level in fabrics has been introduced by Fielden Instrument Corp., 2920 N. 4th St., Philadelphia 33, Pa. The instrument is similar in performance to the Fielden Drimeter but has been introduced to deal with short runs of fabric of widely different weights. The new instrument, the "Moistektor," is said to require a minimum of attention and to give a rapid and accurate indication of under- or over-conditioning.

The device indicates the condition of the material by means of three colored bulbs. The orange center lamp is illuminated when the material is at its normal moisture content. Any departure from this level causes the green or red lamps to be illuminated, showing, in the case of the green lamp, that the material is too dry, or with the red lamp, that it is too wet. Additional contacts actuated by the lamp relays and the instrument can be used to sound an alarm, or, if required, to operate a control mechanism.

The principle of the device is based on the measurement of the change in capacity of an insulated bar or tube which is placed across the process machine in such a position that the yarn or fabric runs over it. When the material is dry, there is practically no spread of the electrical field. But, as the moisture content of the material increases, the electrical field spreads rapidly and changes the moisture capacitance of the bar. This effect is virtually independent of the thickness of the material. The electronic circuit continuously monitors the capacitance of the electrode, and any change from normal is instantly indicated by illumination of the appropriate lamp.

To request further information, please use the card in the Reader-Service dept.; refer to T-19.

Recirculating Filter Changes Medium Automatically

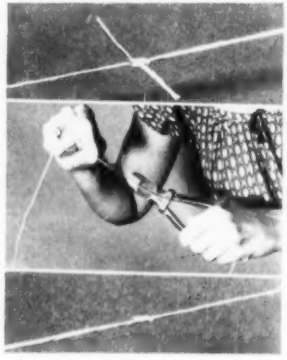


FILTERS CHANGE AUTOMATICALLY when accumulated lint increases air pressure to a predetermined point. Lint and dust gathered are rolled up in filter at bottom and can be disposed of conveniently.

The Auto-Airmat, an automatic dry-type air filter designed to clean the air recirculated from weaving and spinning rooms, has been developed by American Air Filter Co., 125 Central Ave., Louisville 8, Ky. The filter was designed primarily for cleaning air having a high lint content and for providing an easy means of disposing of the collected material.

The Auto-Airmat is built in vertical sections, 3 ft. 8 in. wide, and in heights from 5 ft. to 13 ft. in 4 in. increments. A single ply of filter material from a roll at the top of the casing travels down the face of the filter on a rotating screen and is automatically rerolled at the bottom of the casing. The movement of the supporting screen is controlled by a pressure switch. When lint and dust deposited on the exposed Airmat filter cause the resistance to airflow to rise to a predetermined point, the pressure switch closes the circuit to the drive motor. The drive motor, operating through a gear reducer and chain drive, rotates the screen until a sufficient amount of clean Airmat filter is introduced to the air flow to reduce the resistance. The maximum resistance setting may be adjusted for any operating condition. Dust and lint removed from the air are rolled up in the used airmat filter for convenient disposal when the used roll is discarded.

To request further information, please use the card in the Reader-Service dept.; refer to T-6.



Knot Crusher Compresses Weaver's Knots

A FLIER-LIKE DEVICE for compressing weaver's knots to nearly the diameter of the strand has been developed by E. W. Twitchell, Inc., Philadelphia, Pa. Use of the device enables knotted yarns to pass through carpet-manufacturing machinery without snapping or breaking.

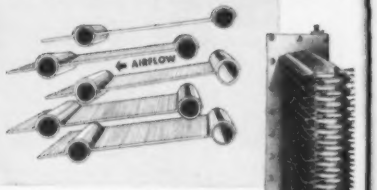
To request further information, please use the card in the Reader-Service dept.; refer to T-25.

TEXTILE THERMOLIERS

stay clean!

Unit heating is obviously the most economical and flexible type of heating for a textile mill. But, like other mill men, you may have had the experience of lint, fly and dust collecting on the fins of the heating element of conventional unit heaters and often plugging the heating element solid in a few days.

Grinnell has corrected this trouble. A Thermolier specially designed for textile mills eliminates all lint and fly collecting fins. Result: Textile Thermoliers stay clean. You get efficient heating with practically no maintenance.



Cutaway view of heating element showing unobstructed air flow passages (drawn to exact scale)

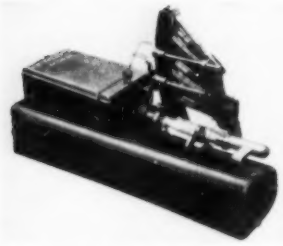
- Free flow of air self-cleans the heating surfaces.
- Maximum capacity provided at all times and annoying and destructive water hammer eliminated because built-in pitch of tubes and internal cooling leg assure continuous drainage of condensate.
- Safety and durability assured with leak-proof tube-to-header construction.
- Plain thermostatic trap, the simplest and least expensive kind of trap, made practical because of Thermolier's exclusive internal cooling leg. Write for the full story.

100th ANNIVERSARY — WHENEVER PIPING IS INVOLVED

GRINNELL

Grinnell Company, Inc., Providence, R. I. Branches: Atlanta • Billings • Buffalo • Charlotte • Chicago • Cleveland • Cranston • Fresno • Kansas City • Houston • Long Beach Los Angeles • Milwaukee • Minneapolis • New York • Oakland • Philadelphia • Pocatello • Sacramento • St. Louis • St. Paul • San Francisco • Seattle • Spokane

Controls Readily Accessible in New British Winder



BALL BEARINGS, seven in each head, are used in this new bobbin winder to carry all fast-moving parts.

A new, single-spindle, automatic bobbin winder which has four spindle speeds ranging from 2,000 to 5,000 rpm. has been introduced by George Hattersley & Sons Ltd., Keighley, Yorkshire, England. A trial six-head unit of the new winder is being installed at Hamilton Co. Ltd., Hamilton, Ont., Canada.

Each head of the new winder is a self-contained unit driven through a cone disk. The winder is built in six-spindle units. The drive is by a ¾-hp. motor. Spindle speeds are available by changing the pulley ratios on a four-step V-rope cone.

Directly driven from the main spindle, the bunch builder allows accurate adjustments in yarn length from 0 to 18 yd. by setting a 10-position lever. A separate adjustable traverse can be applied while the bunch is being built.

A separate layer-locking motion is imparted to the traverse mechanism, and the patented carriage mechanism insures an improved feed traverse. The ball-bearing-mounted feeler wheel is independent of the thread guide, and is said to be extremely sensitive in indicating traverse as required.

A simple adjustment gives a change of direction of wind of the bobbin if necessary. Bobbins of 6 to 10 in. in length can be used in the winder to take all classes of yarns from cone supply packages. Bobbin diameters are ¾ in. to 1⅞ in.

As the necessary adjustments to the winding head are made from the outside, the entire internal mechanism is guarded by a quickly removable cover.

To request further information, please use the card in the Reader-Service dept.; refer to T-8.

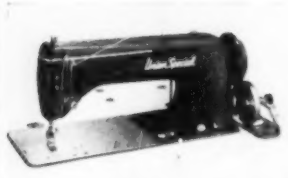
Bobbin Finish Reduces Warping and Snagging

A new finish developed by New England Bobbin & Shuttle Co., Nashua, N. H. for its automatic loom bobbins is designed to withstand temperatures up to 125° F., chemicals used in detergents, and more-than-ordinary hard use. The new finish is marketed under the name Long-Life. The finish is said to remain smooth and clear of damage far longer than conventional finishes, and to aid in preventing warpage of bobbins since it does not absorb moisture, according to the manufacturer.

The new finish is said to have extra smoothness, extra wear resistance, to eliminate danger of broken picks, and to eliminate hairy or chafed cloth and other defects caused by yarns snagging on damaged bobbins when weaving with fine-count or high-denier yarns. The new Long-Life finish has been thoroughly mill tested under various working conditions, says the manufacturer, and has proved to be highly satisfactory.

To request further information, please use the card in the Reader-Service dept.; refer to T-29.

Effortless Operation Claimed for Lockstitch Machine



A NEW FEED MECHANISM has been incorporated among other improvements in this machine to produce even feeding of materials and smooth, flat seams.

A new, single-needle, lockstitch machine said to embody many improvements over previous machines has been developed by Union Special Machine Co., Chicago, Ill. The new machine is designated as Class 61400, and is now in regular production and immediately available.

The feed mechanism has been designed to produce a smooth, symmetrical feed curve that gives even feeding of materials and smooth, flat seams. The new stitch-regulating mechanism has a pushbutton control for quick, easy stitch-length adjustment.

The presser bar has been shortened to give a light, yet positive, feeding action. These lighter parts, combined with the feed motion, result in a light, easy, feather-like touch and give the operator the feeling of effortless, smooth operation.

Another improvement is a completely new thread-control tension assembly which not only assists in better thread control, but allows full adjustment from outside the machine.

Hook timing in the new 61400 is responsible for better stitch control and greater freedom and ease in tacking because it is less sensitive to foot-lift variations. Tacking is also further improved by other features in the design and thread control.

In the Class 61400 machine, the needle is positioned in the needle bar; the needle head is eliminated. This change has permitted a stiffer needle construction, eliminates staggered stitches, and results in a uniform line of stitching.

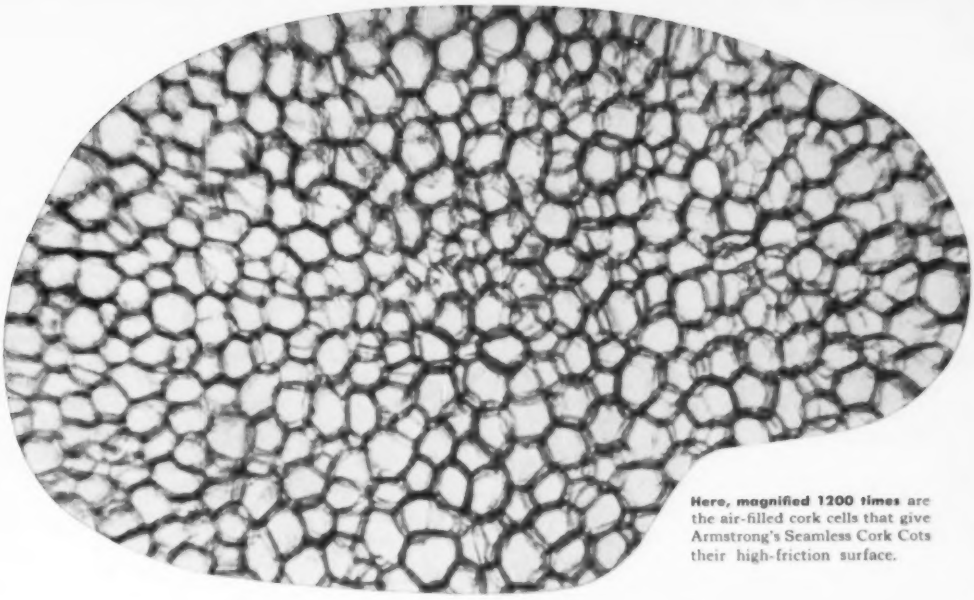
The new machine is modern in appearance and incorporates other mechanical design features developed and refined by the company over several years.

To request further information, please use the card in the Reader-Service dept., refer to T-10.

Humidifier Designed For Small Requirements

A new "table model," heavy-duty, all-purpose humidifier has been developed by Daffin Mfg. Co., Lancaster, Pa. Positive output of the new unit, which measures 9 in. across and 5 in. high, is 2½ lb. of water per hr. The unit contains an automatic float valve, and may be adapted for automatic control with a humidistat. It lists for less than $75.

To request further information, please use the card in the Reader-Service dept.; refer to T-15.



Here, magnified 1200 times are the air-filled cork cells that give Armstrong's Seamless Cork Cots their high-friction surface.

Why cork cots won't eyebrow

Armstrong's Cork Cots don't eyebrow because they have a high-friction surface that carries loose fibers well back on the clearer board where they can't fall into the yarn.

Cork's superior friction comes from its millions of tiny, air-filled cork cells. As the yarn passes under the cot, these microscopic cells act like tiny suction cups. They pack loose fibers tightly against the clearer board.

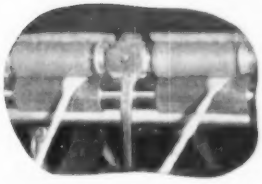
These same cells are responsible for cork's excellent spinning qualities. They grip fibers firmly, drafting out strong uniform yarn. They also resist slicking and reduce clearer waste.

Armstrong's Cork Cots are economical to use. They are low in first cost. They cut roll shop labor charges because they come seamless and preglued, ready to assemble in one easy operation. In service, they give two to three years of front line spinning, with only an occasional light buffing needed to maintain their surface in perfect condition.

Test them on a frame in your own mill. Call your Armstrong representative today or write Armstrong Cork Co., Textile Products Department, 8310 Arch Street, Lancaster, Penna. Available for export.

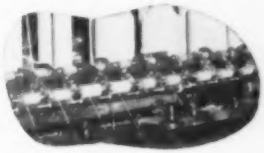
ARMSTRONG'S CORK COTS

for high-quality spinning . . . at low cost



Non-Eyebrowing — Armstrong's Cork Cots carry loose fibers back under the clearers so they can't fall into the yarn and cause slubs.

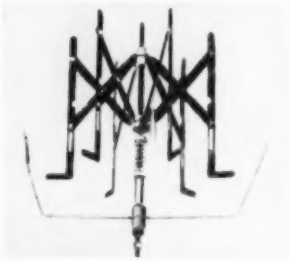
Seamless—Extruded in one piece, Armstrong's Cork Cots have no seams, no structural weaknesses that can cause premature failure.



Economical—Low in initial cost, easy to install and maintain, Armstrong's Cork Cots keep labor and material costs to a minimum.

For more information, write direct or use Reader Service post card.

Cake Holder and Flyer Increase Winding Production



***TENSION OF THIS CAKE HOLDER** can be adjusted. The holder can be contracted to be introduced quickly into a cake, and expansion is achieved by depressing a hardened trigger.*

An expanding cake holder together with a suitable flyer developed by Manchester Metal Works, Ltd., 368, Bury New Rd., Salford 7, Manchester, England, is said to provide an average increase of 27½% in the poundage of yarn wound per week as compared to previous methods.

The increase in output is attributed to the rapid method by which the expanding holder can be closed, placed in a new cake, and opened up; the quick method by which the assembly can be mounted on the flyer; and the gentle unwinding action of the flyer which prevents every turn of the yarn being dragged over those adjacent to it. The latter feature is also said to result in a lower percentage of breaks.

The holder can be closed with one movement of the hand and is ready for further use immediately. The flyer is provided with a threaded portion at one end, 1 in. long, complete with nut, so that it may be mounted vertically, horizontally, or at an angle on wood or metal bars, by drilling a single hole. The flyer portion itself is hardened and runs on two ball races.

Components are very easily taken apart if desired, and all parts are said to be practically indestructible. The end of one of the spring-steel wire arms is provided with a coupling piece and a figure-8 eyelet, all of which are adequately protected and held in position by a light rubber sleeve.

The over-all length of the center spindle of the cake holder is 7⅛ in., which allows about ⅛ in. of spindle to project at each end, so that the holder may be mounted, if desired, in slots on a winding machine. When closed, the holder may be introduced into a hole 1¾ in. in diameter, but will expand at its maximum to 4⅛ in. diameter. The L-shaped supports for the cake itself are 5¾ in. long on the parallel and ¾ in. deep on each leg. Special L-shaped supports can be provided for mills using larger cakes.

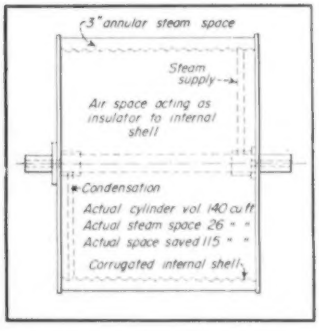
To request further information, please use the card in the Reader-Service dept.; refer to T-7.

Pocket Microscope Magnifies Weaving Defects

***THREE NEW MICROSCOPES**, each of which will magnify a ¼-in. section of fabric to 50 diameters, are available from S. Christian of Copenhagen, Inc., 200 Stockton St., San Francisco 8, Calif. The lowest-priced model sells for $10 and has no graduated scale on the lens. A second model with an achromatic lens but with no scale sells for $14. A third model selling for $22 has both an achromatic lens and a scale on the optic graduated to 0.1 mm. Carrying cases for all three models are available. Length of the microscopes is 5¾ in.; maximum diameter is ¾ in.*

To request further information, please use the card in the Reader-Service dept.; refer to T-27.

Slasher Cylinder Uses Less Steam, Uses It More Efficiently


3" annular steam space
Steam supply
Air space acting as insulator to internal shell
Condensation
Actual cylinder vol 140 cu ft
Actual steam space 26 " "
Actual space saved 115 " "
Corrugated internal shell

***AN INTERNAL SHELL** in this new cylinder reduces the amount of steam in the cylinder to the space of a 3-in. area around the perimeter.*

Great savings in steam and heat radiation are said to have been achieved by a new-type drying cylinder for slashers developed by Rigby & Mellor, Ltd., Bury, Lancashire, England. The cylinder is said not only to use less steam than the ordinary type of cylinder, but to give off little heat radiation from the cylinder ends. At the same time, full drying efficiency and maximum production are said to be obtained.

Outstanding feature of the new machine is an internal shell, approximately 3 in. from the outer shell, which reduces the amount of steam necessary without any loss in drying efficiency. Instead of the whole of the cylinder being filled with steam, only the 3-in. cavity between the two shells need be filled.

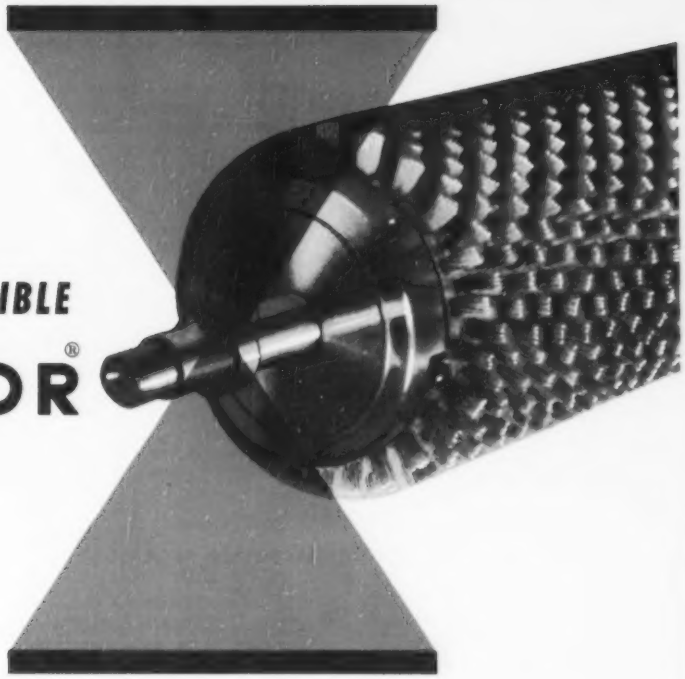
The internal shell is especially constructed in a corrugated pattern to afford lightness and to give adequate strength to withstand the necessary steam pressure. The shell also serves as a stay or support to brace the end walls of the cylinder. As the outward steam pressure is greatly reduced in the new cylinder, the usual cross stays have been eliminated without any loss of stability.

The total weight of the new cylinder is no greater than that of the normal types, an important factor since a heavier cylinder would require more power to rotate it and might cause strain on the yarn.

Heat losses brought about by radiation through the cylinder ends are said to be almost entirely avoided. The manufacturer states that in the ordinary type of cylinder these heat losses amount to 6° F. per sq. ft. per min. and that the steam contact at each end is reduced from an area of approximately 28 sq. ft. in the old cylinder to just over 4 sq. ft. in the new cylinder. The appreciable reduction in heat-radiation losses in the new cylinder is said to result in lower room temperatures and better working conditions.

To request further information, please use the card in the Reader-Service dept.; refer to T-9.

THE INDESTRUCTIBLE METLKOR®



These textile industry facts are time-tested and proven to cut your costs. Plant operators are finding patented Jenkins' METLKOR—the cylinder brush that *can be rebristled*—lasts *3 to 12 times longer!*

Tuft-set bristles prevent abrasion, won't bleed or absorb dyestuffs. They resist water and solvents. And we'll rebristle them when they finally wear down.

These facts mean increased efficiency and sliced costs—*for you!* There's a METLKOR brush for every textile process. If you have a special brush problem, call on us, or write: M. W. Jenkins' Sons, Inc., Cedar Grove, Essex County, New Jersey.

Brushes available in nylon, pure China bristles, fibre, etc., or combinations.

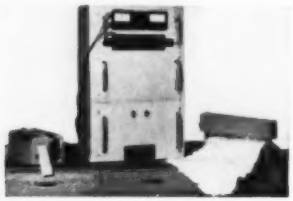
M. W. JENKINS' SONS, INC.

73 YEARS OF INDUSTRIAL BRUSH KNOW-HOW

Cedar Grove, Essex County, New Jersey

 For more information, write direct or use Reader Service post card.

Radioactive Thickness Gage Measures Sliver or Lap Irregularity



VARIATION IN WEIGHT per unit length of laps or sliver can be detected by the intensity of beta rays, which in turn can control devices to make adjustments to improve uniformity.

A new electronic device for measuring irregularities in spinning processes and at the same time for making corrections to processing machinery has been developed by Baldwin Instrument Co., Ltd., Brookland Works, Dartfort, Kent, England. The machine, known as the beta thickness gage, makes use of beta rays emitted from a radioactive material produced in atomic piles. The machine measures the weight per unit length of the material being processed without touching it, records the variation in regularity, and transmits an electric current, varying in relation to the irregularity of the material, which can be used to apply corrections to the processing machinery.

The material being processed passes between two chambers, one containing radioactive isotopes and the other an ionization chamber. A stream of electrons propelled from the isotopes passes through the material into the ionization chamber. By measuring the amount of radiation which emerges from the surface of the material, the thickness of the material can be determined.

One machine has been installed on a picker in a Lancashire research laboratory to undergo practical tests. It is believed that if the regularity of the fiber passing through the picker can be controlled to produce a level yarn, the need for automatic control devices in later stages of spinning may not be necessary.

To request further information, please use the card in the Reader-Service dept.; refer to T-16.

Two-for-One Twister Spindle Adaptable to Any Up-Twister

A new two-for-one twister said to be adaptable to practically any existing up-twister and which inserts up to 30,000 twists per min. has been developed by Parcofil Textile Machinery Makers, Ltd., Sirnach, Switzerland. The newly available machine is said to be suited to the processing of silk and rayon crepe, cotton, nylon, and Perlon.

The present spindle is an improvement over an earlier type previously developed and uses a stationary bobbin. The spindle carrying the bobbin is housed in a stationary metal container beneath which is a revolving disk. The spindle itself turns on roller bearings. The stationary part of the spindle which carries the delivery bobbin rests on the spindle by means of two ball bearings and is fixed by permanent magnets which prevent it from following the rotation of the spindle.

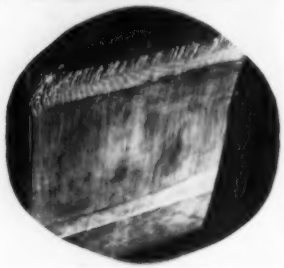
The yarn is drawn over-end from the stationary bobbin, descends through a hollow shaft in the spindle, and receives the first twist. As it leaves the spindle shaft, the yarn passes through a slit in a revolving disk which gives the second twist as the yarn passes into the balloon, up through the thread guides, to the winding bobbin.

The Parcofil system is said to eliminate the effect of off-balance delivery bobbins, as the bobbin remains stationary. The balloon remains constant so that it cannot graze the layer of yarn on the delivery bobbin and cause damage to the filament. Uniformity of twist and unvarying yarn tension are claimed.

The double-twist spindle is obtainable in two types. Three models have a delivery bobbin with a vertical axis, and one model has a delivery bobbin with a horizontal axis.

To request further information, please use the card in the Reader-Service dept.; refer to T-1.

Leather Belt Has Controlled Stretch



SYNTHETIC-YARN CORDS which will not stretch are combined with the greater pulley grip of leather in this new belting which is said to eliminate permanent elongation.

A new flat leather belt with "controlled stretch" that prevents permanent elongation of the belt under load and thereby eliminates slipping has been developed by S. R. Sikes Co., 1028 S. Third St., Minneapolis 15, Minn.

The new belting combines the non-stretching advantages of fabric belting and the greater pulley grip of leather belting. Called "Cordan," the new leather belting is reinforced with synthetic cords, that are placed between the leather plies by a special process perfected by the company. These cords effectively provide the added resiliency that is necessary to prevent the leather from stretching beyond a certain point under load and to return the belt to its true length when not under load.

According to the manufacturer, the "controlled stretch" principle eliminates the slippage that reduces power loss, belt-damaging friction, and frequent shutdowns for adjusting or shortening the belt. Maintenance costs are said to be reduced, belt life lengthened, and production increased. In addition, Cordan leather belting is said to be waterproof.

The new flat-leather belts are said to have been in operation for over 6 mos. transmitting high overloads without adjustment or shortening.

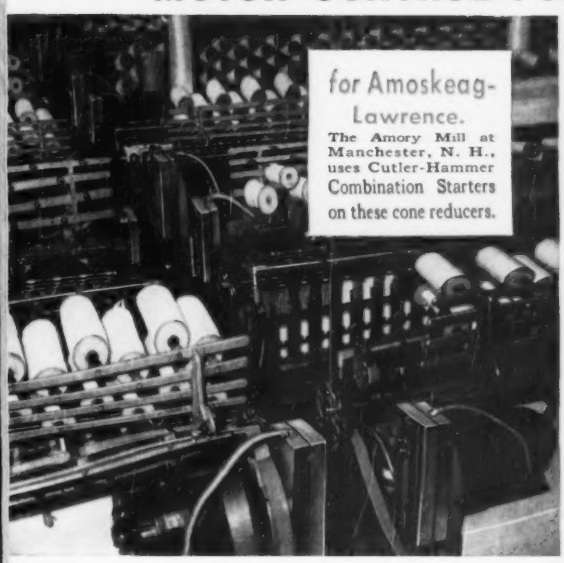
The new belting is available immediately in widths up to 24 in. and can be obtained endless or with laps prepared. In addition, the belting can conveniently be installed with Clipper belt hooks.

To request further information, please use the card in the Reader-Service dept.; refer to T-4.

(Continued on page 184)

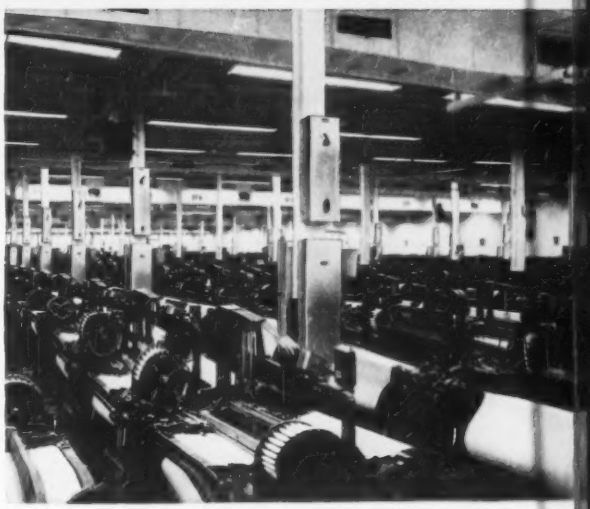
CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY



for Amoskeag-Lawrence.
The Amory Mill at Manchester, N. H., uses Cutler-Hammer Combination Starters on these cone reducers.

for a Leading Southern Mill
Cutler-Hammer Card Controllers are mounted directly on the machines in this North Carolina Mill.



One question that answers itself

No responsible textile mill executive will decide the question "*What* motor control?" except in the light of *one fact*. And that is the fact that *profitable* textile production results from the integration of many machines into a single harmonious production unit. The need for such integration spells out the answer to the question right there. For this integration certainly calls for the *best* motor control engineering experience available . . . certainly calls for the *most competent* motor control design and construction available . . . certainly calls for a *proved dependability* in motor control performance. There is only one make of motor control that meets all these specifications, the product of the pioneering specialists in motor control since 1892. CUTLER-HAMMER, Inc., 1457 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

for Springs Cotton Mills
at Kershaw, S. C., plant. Cutler-Hammer Loom Switches for each group of 10 looms are here mounted in single enclosures on adjacent building columns above mill traffic. Note also single combination starter installed ahead of each group.

CUTLER-HAMMER LOOM SWITCH

for fewer shutdowns, greater production, easier maintenance

Pushbutton operation—most preferred for this type of starter. Stop button can be padlocked.

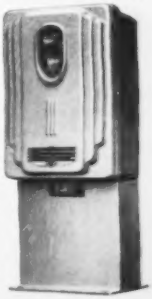
Stronger, smaller, drawn steel case. Unique welded-steel mounting pedestal available to create a *complete* assembly with unparalleled resistance to mechanical damage.

Lint-proof enclosure—close fitting cover (even around pushbutton well) limits entrance of lint and dust.

Service proven, positive make, quick break operating mechanism built on *steel* framework.

"Out in the open" contacts for quicker inspection and easy renewal *on the job*. Most dependable overload protection—famous Cutler-Hammer eutectic element type—prevents unnecessary shutdowns without sacrifice of *positive* motor protection.

Vibration resistant. Mechanism "floats" in truly effective *live* rubber mounting bushings.



Dyes & Chemicals

New Dyes Improve Fastness On Many Types of Fabrics

A new range of neutral-dyeing colors possessing interesting application and fastness properties on both nylon and wool is announced by the Dyestuffs Div., E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del. These dyestuffs are marketed under the trade-mark Neutracyl and comprise the following members: Neutracyl Blue G; Neutracyl Yellow N; Neutracyl Yellow 3RD, and Neutracyl Black N.

The outstanding light-fastness of these dyes on nylon is particularly significant, and they show similar characteristics on wool. They are said to possess good saturation affinity and can be used either alone or in the production of combination shades. The Neutracyl dyes are recommended for the dyeing of suiting fabrics, shirtings, automotive and other transportation fabrics, sportswear, athletic goods, etc.

The division also recently put on the market Pontamine Fast Violet 4RL dye, a direct-dyeing color said to have outstanding fastness to light when applied either to cotton or viscose rayon in pale and heavy shades. On rayon, the color is said to show good resistance to washing, dry cleaning, perspiration, and dry crocking.

Pontamine Fast Violet 4RL is said to be well suited to the production of deep reddish-violet and mauve shades and also is useful as a reddening element in the formulation of beige, gray, and taupe shades. It is recommended for use on draperies, upholstery fabrics, dress goods, and similar materials that have to be resistant to light.

To request further information, use the card in the Reader-Service dept.; refer to D-1.

New Acid Reacts Like Typical Tricarboxylic Acid

A new organic acid, Evanacid 3 CS, has been produced in pilot-plant quantities by Evans Chemetics, Inc., 250 E. 43rd St., New York, N. Y. The new acid is a tricarboxylic acid containing a thioether group.

Evanacid 3 CS reacts much like a typical tricarboxylic acid, according to the manufacturer. It forms salts, amides, esters, acid chlorides, and other derivatives in a manner similar to such well-known tricarboxylic acids as citric and aconitic. In many cases, the derivatives of the mono- or di-substituted products can be synthesized to yield other products.

The manufacturer suggests the use of the new acid and its derivatives as follows:

Resins: Special resins of the alkyd type modified by the thioether groups are made by reacting Evenacid 3 CS with polyhydric alcohols.

Plasticizers: The trialkyl esters of Evanacid 3 CS are said to be excellent plasticizers for polyvinyl chloride, vinyl copolymers, and other elastomers.

Surface-Active Agents: The alkali and amine soaps of partial esters and amides of Evanacid 3 CS are claimed to show excellent properties as emulsifying and wetting agents, detergents, and foaming agents.

Oil Additives: Straight trialkyl esters, as well as lead, tin, and other salts of Evanacid 3 CS, its partial esters, and its amides are suggested for use in lubricating oils as antioxidants, extreme-pressure additives, and similar materials.

Other suggested uses are as an intermediate for rubber chemicals and dyestuffs, and as stabilizers for vinyl resins and chlorinated rubber.

To request further information, use the card in the Reader-Service dept.; refer to D-5.

Finish Controls Shrinkage Without Stiffening Fabric

Commercial-scale production of Synthrez B, another polymerized urea-formaldehyde solution, is announced by Synthron, Inc., Ashton, R. I. Synthrez B is recommended by the manufacturer for use in obtaining durable finishes and shrinkage-control effects on cotton, rayon, and blended fabrics. Its carefully controlled polymerization is said to make possible the production of shinkage-controlled finishes without excessive stiffening of the fabric. Mill tests show that curing is effective and complete with Synthrez B.

Specifications are:

Appearance	Clear, colorless, syrupy liquid
Active content	52 to 53%
pH @ 25° C.	7.5 to 8.0
Viscosity @ 25° C.	30 to 40 centipoises
Free formaldehyde	Less than 5%
Specific gravity @ 25° C.	1.18
Weight per gallon	9.85 lb.
Cured resin yield (150° C.)	40% approx.

For general useage, 1 to 5% Synthrez B is used, together with appropriate catalysts, depending on the effect desired. Curing, washing, and dimensional-control processes during finishing are similar to the conventional urea-formaldehyde procedures.

To request further information, use the card in the Reader-Service dept.; refer to D-4.

New Assistant Aids Single-Bath Scouring and Dyeing

A synthetic detergent, Teepol 410, developed by Shell Chemicals, Ltd., London, England, is being used in England as an assistant in the single-bath technique for scouring and dyeing rayon and nylon hosiery. Until recently, most dyers in England used the two-process method.

The single-bath scouring and dyeing technique is said to save processing time, reduce seconds, efficiently remove lubricating oils and graphite, give rapid penetration of seams, and yield excellent level dyeing.

The process adopted for dyeing nylon hosiery by many dyers is as follows:

To 450 gal. of liquor in a paddle machine, add 12 pt. of Teepol 410 and 4½ lb. of sodium metasilicate. Raise the

(Continued on page 232)

Flameproof Finish Permanent

THIS PRETTY MISS can hold her apron over the gas flame, because it is treated with Permaproof 300, a new flameproof finish manufactured by Treesdale Laboratories, Inc., Mars, Pa. Permaproof 300 was developed by Treesdale chemists with assistance by chemists of the B. F. Goodrich Chemical Co.

Permaproof 300 is said to be a permanent finish that will not wash out. The manufacturers claim that fabric treated with the compound retains much of its softness and porosity, is not tacky, contains no skin poisons or irritants, is shrink-resistant, and will not mildew. It is further claimed that the treatment of fabric with Permaproof 300 increases durability of the fabric.

The treated fabric is said to char in the presence of intense fire, but not flame or glow after the fire is removed. It is recommended by the manufacturer for use in treating clothing for workers in steel mills, clothing for welders, aprons, mattresses, and other items in which flameproof characteristics are desirable.

To request further information, use the card in the Reader-Service dept.; refer to D-3.

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THIS IS NO. 83 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

Fig. 1. Bobbin Unbalance Indicator measures amount of bobbin unbalance. Instrument is being calibrated with test disc.

NEW BOBBIN UNBALANCE INDICATOR

Running unbalanced bobbins on twister spindles results in excessive spindle wear, extra power requirements and the consequences of spindle vibration: slippage, slack twist and loosening of machine parts.

Universal's Atwood Division has recently developed a new instrument, the Bobbin Unbalance Indicator, which permits bobbin unbalance measurements to be made accurately, quickly and inexpensively within the mill.

Unbalance Measured Automatically

The Bobbin Unbalance Indicator is a compact instrument which consists of two spindles that can be driven alternately at normal spindle speeds plus an electronic system of measuring the unbalance of the bobbin running on either spindle.

Spindle bolster vibration caused by bobbin unbalance is picked up by a coil and converted into an electric current. This current, which is then amplified by an electronic circuit, indicates the degree of bobbin unbalance on a meter in the face of the instrument.

Universal Units of Unbalance

The meter is calibrated to indicate the degree of bobbin unbalance directly in Universal units.

The effect of unbalance varies widely, not only with the amount of unbalance, but with its distribution. For instance, a bobbin unbalanced in both heads on the same side is much less unbalanced in its effect on the spindle at operating speeds than one with the same amount of unbalance in both heads on opposite sides.

Ten Universal units of unbalance are, therefore, defined as that unbalance which causes the same effect as 10 inch-grains of unbalance in each head on opposite sides (180 out of phase) of an 8-oz. bobbin 5 in. long. Accuracy to within one Universal unit may be expected when the instrument is properly adjusted and reasonable care is applied in placing the bobbins onto the spindles.

The limits of permissible unbalance as measured by the instrument vary widely with the type of bobbin, the spindles on which it is to be run, and the speed at which it is to be used. A table of recommended limits is furnished with the instrument.

Easy Operation

Only four simple operations are required to test each bobbin once the instrument has been adjusted. They are:

1. Gently place the bobbin to be tested on one of the spindles.
2. Move the shift lever toward the bobbin to be tested.
3. Read the meter indication.
4. Remove the bobbin by lifting and twisting it off.

Since the instrument contains two spindles, the operator can replace the bobbin on one spindle while the indication for the other stabilizes. It takes but a few seconds to complete the four operations.

The tested bobbins are then placed in separate groups, one group for balanced; the other for unbalanced bobbins.

Spindle Blades

Blades are available for all types of twister bobbins having a net yarn capacity up to 2 lbs. The instrument is normally furnished with tapered spindle blades for 8-oz. bobbins with a .031 in. per inch taper bore. However, any type of blade may be used.

Fig. 2. Operator is reading the meter indication for the left-hand spindle while removing an already-tested bobbin from the right-hand spindle.

23.0.2

October 1950

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

Atwood Division

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

Pointers FOR SUPERVISORS

Human-Relations Ideas YOUR MILL Can Use

The best ideas for good human relations don't always originate with the textile industry. But here's a roundup of the cream of good ideas from all industries selected and reviewed by a textile man. Every one could well be used by mills in our industry.

By PAUL KING
Ass't. to Vice President for Personnel, Bigelow-Sanford Carpet Co.

Suggestion System Pepper-Upper. Your mill suggestion system will bring in a lot more money-saving ideas if your supervisors are continuously pepped up about it—and if they know how to encourage their employees to develop these ideas.

Remington Rand meets the problem by distributing a 4-page Suggestion Newsletter to all its supervisors every other month which

—renews the interest of the supervisor in the suggestion system

—shows him how to get employee cooperation.

Waste Elimination Bonus. Something new in bonuses! Something that can be adapted and that ought to work well in textiles even though the company which developed the idea—Nineteen Hundred Corp. of St. Joseph, Mich.—is a maker of washing machines.

The object of the bonus was to cut costs by cutting down on waste, rework, scrap, and so on. The bonus worked like this:

These items were counted—idle time, perishable tools, rework, scrap, and supplies. Each was assigned a percentage figure—the percentage of each to direct labor. The percentages were than added up to become the standard percentage. (The percentages for each item were based on the average for the past three years.)

For each percentage the standard figure was reduced, a bonus was paid based on a 50-50 sharing of the cost savings—50% for the workers, 50% for the company.

The workers split the savings according to the number of hours each worked in the period. For example, in May, the worker's pool was credited with more than $10,000 of savings or about 2.12¢ per hr. for each eligible worker.

Santa Claus Is Coming to Town. Christmas may be several weeks off—but if you are planning to do something special with your company magazine this December, now is the time to start thinking about it. Printers, artists, and layout men have a knack of wrecking the best-laid plans of editors.

Last year the American Viscose Co. prepared an outstanding Christmas issue of their *Avisco News* devoted to the kids of Viscose workers.

The issue included:

—about 14 Christmas Carols "for the whole family"

—Christmas gifts and decorations the children could make

In addition, there were such games for the kiddies as

—"What's Wrong With This Picture"; how many mistakes made by the artist can the children find?

(Continued on page 228)

New Member of the Team

Paul King, author of this month's installment of Pointers for Supervisors, is the assistant to the vice president for personnel, Bigelow-Sanford Carpet Co., Inc. He is the newest member of the team of three mill men who write this department on alternate months. The other two members are William Eastman, Director of Industrial Relations, Bachmann Uxbridge Worsted Co.; and Macon P. Miller, director of Industrial and Public Relations, Fieldcrest Mills. The member Mr. King is replacing is John M. Scott, Jr., Director of Personnel Relations, Rocky Mount Mills, who is leaving the department because of pressure of other work.

Mr. King was formerly an executive editor at Prentice-Hall, where he supervised a large staff of editors who covered such industrial-relation topics as pensions, arbitrations, personnel ideas, union contracts, and labor relations. He was also, for a while, head of that company's Washington Bureau covering labor, tax, and economic matters.

He is the author of the Significant Labor Developments department of *Factory Management and Maintenance* magazine. He is also a member of the New York Personnel Manager's Assn., Industrial Relations Research Assn., and the New York Bar.

As assistant to the vice-president for personnel at Bigelow-Sanford, he has helped develop a company pension plan and company personnel policies, participated in company-union negotiations, coordinated information programs for employees, and helped prepare personnel statistics.

To John M. Scott, Jr., our thanks for an interesting and informative series of articles.

Kinks AND SHORT-CUTS

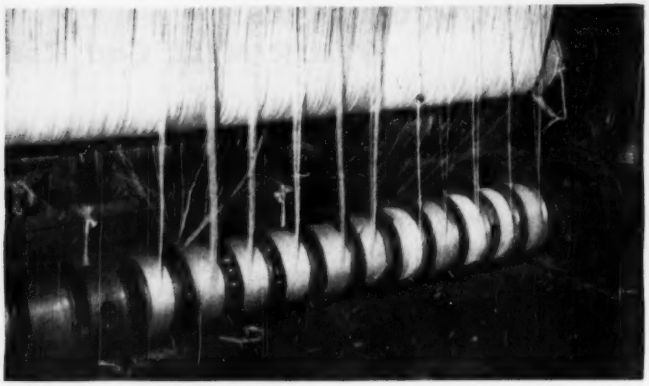
Sectional Beam Holds Decorative Ends

Designers usually lay out a pattern blanket with a number of warp ties. By tying in different colors of decorative yarns, considerable time and money are saved.

The usual method is to lift up the ends to be broken out and tied and wind the new colors on a pin rack. After the ends are drawn to the back of the loom, some makeshift arrangement is generally used. The ends may be wound around the loom beam or tied to the warp yarn.

This method is not very satisfactory; uneven tension and snarled yarn may result. A better method is to use a sectional auxiliary beam, such as the one shown in the photograph, to simplify the operation.

Parts necessary to construct the sectional beam are two beam flanges bored out for a shaft 1½ in. in diameter. The shaft must be as long as the loom beam. It takes the place of the beam barrel. Sections are made of cast-iron drums about 4 in. wide and 6 in. in diameter.



DECORATIVE ENDS may be tied in with a warp and run from a homemade sectional beam as shown here. The beam sections are made of cast-iron drums mounted on a shaft. The shaft is fastened at each end to a beam head.

A ratchet gear fastened to the shaft with a setscrew is necessary for each drum. Each drum also has a pawl and spring riding on the ratchet so that the drum may be tightened as the yarn is wound. A pin extending from a hole bored in the flange of the drum will hold the yarn until it starts winding.

After the ties are completed and the loom is started, let-off tension for the section drums can be applied with a leather band riding each of the two beam flanges. One end of the leather may be fastened to the floor and the other end to a coil spring fastened to the floor.

Most older looms are equipped with a double or triple beam stand. If a double stand is not available, a wooden stand may be used to hold the sectional beam. (K-1437)

Guide and Spacers Making Drilling Accurate

In most knitting mills, it is desirable at times to drill a nest of holes in a metal plate. Probably the method most frequently used in locating the holes is to measure them from the centers and mark the locations with a punch.

Where tolerances are close, this method is often not accurate enough. A better way, I've found, is to use a guide fastened to the drill-press table and spacers made to the exact dimensions needed.

As shown in the sketch, a nest of holes to the measurements shown in A is to be drilled in a blank plate. The method I use to mount the plate for accurately locating the holes to be drilled is illustrated in sketch *B*.

Guide bracket a is made of $\frac{3}{16}$-in. stock shaped as shown. Length and width of the stock may be any dimensions that are convenient. It is important that the inside faces of guide a are smooth and square and that the angle between the two sides is an exact right angle.

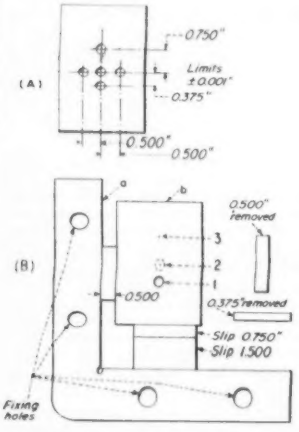
Four holes are drilled in the guide so that it may be firmly bolted to the drill-press table.

Spacer bars are made from flat stock to the exact dimensions needed. For the holes shown in *A*, the bars needed are two 0.500-in., one 0.375-in., one 0.750-in., and one 1.500-in. bars. For accuracy, it will be necessary to use a micrometer in measuring and cutting these spacers. The sides must be square.

I use the guide in the following manner:

With the guide bracket bolted to the press table, the plate to be drilled is placed on the table as shown at *b* in sketch *B*. To drill the row of holes down the center of the plate, one 0.500-in. spacer is placed between the left-hand side of the plate and the side of guide a. The other 0.500-in. spacer is not used for these holes.

The other three spacers (0.375,



ACCURATE DRILLING where a nest of holes must be located to close tolerances may be obtained by the use of a guide and spacers. The guide is bolted to the drill-press table, and the plate to be drilled is placed in the proper positions by the spacers.

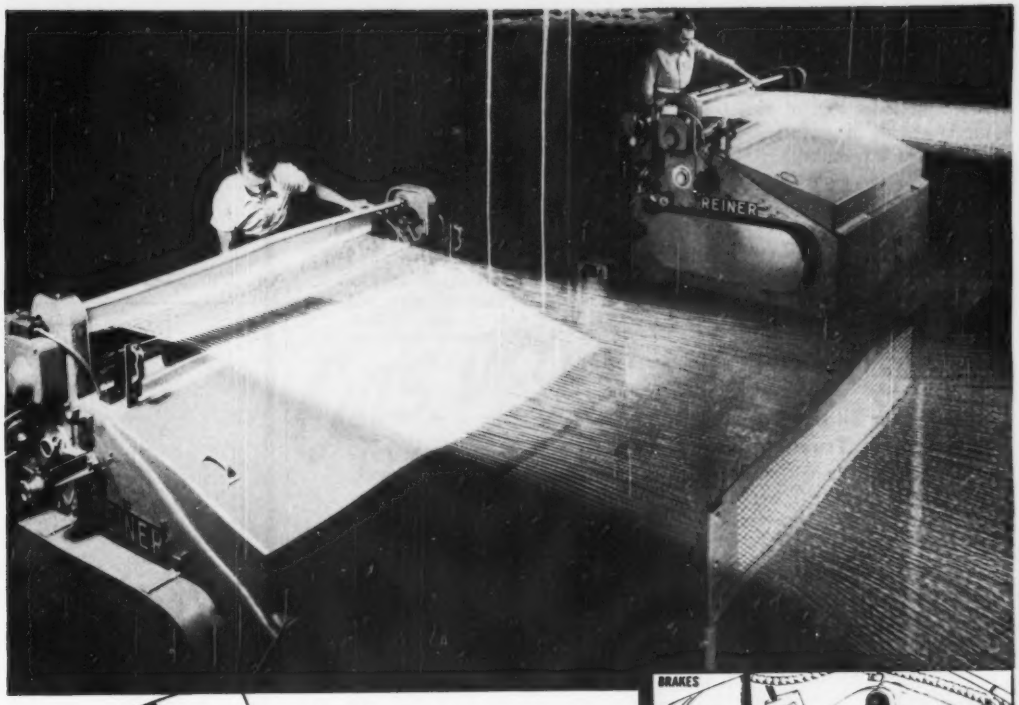
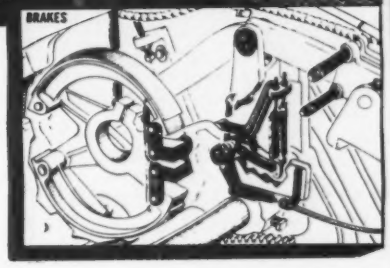
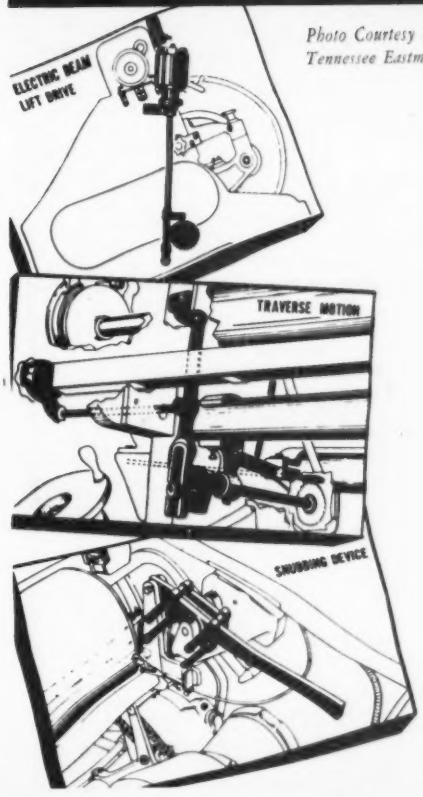


Photo Courtesy of
Tennessee Eastman Corp.





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designed to warp a fine delicate yarn at high speed without any undue strain on the yarn. It is built for beaming filament rayon, nylon, spun rayon, cotton, woolen, worsted, linen, acetate, etc. A fully illustrated catalog—yours for the asking—acquaints you with the most important features of this reliable and economic warper.

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0.750, and 1.500 in.) are placed between the lower edge of plate *b* and the lower side of guide a.

Hole No. 1 is drilled.

Then the 0.375-in. spacer is removed, and plate *b* is lowered against the 0.750-in. spacer. The plate is now ready for hole No. 2 to be drilled. This position of the plate and spacers is shown in sketch *B*.

After No. 2 hole is drilled, the 0.750-in. spacer is removed and plate *b* is moved down again so that hole No. 3 can be drilled.

To drill the hole on the right-hand side of hole No. 2, replace the 0.750-in. spacer between plate *b* and the 1.500-in. spacer. The plate is again raised so that hole No. 2 is directly under the drill. Now, remove the 0.500-in. spacer to the left of plate *b*, and slide the plate to the left against guide a. Drill the right-hand hole.

The hole to the left of hole No. 2 remains to be drilled. Plate *b* is moved to the right, and both 0.500-in. spacers are placed between the plate and guide a. The hole is then drilled. (*K-1436*) *A. M. Morris, Leicester, England.*

Needle-Bar Shaft Checked for Trueness

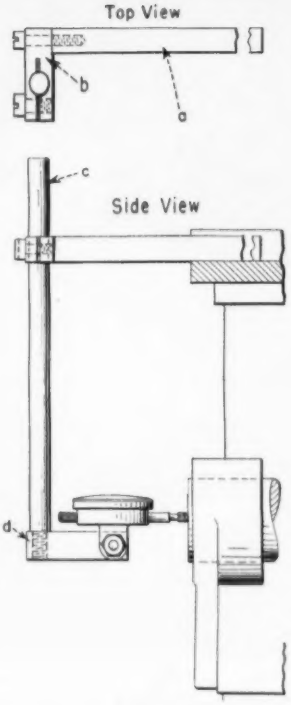
The holder for a micrometer dial gage shown in the accompanying sketch provides a way by which the exact lateral motion of the needle-bar shaft in a full-fashioned knitting machine may be tested while the machine is in motion at its normal narrowing speed. This testing will enable a skillful fixer to maintain the adjustment required for perfect narrowing, and thus prevent countless split and dropped stitches over a period of time.

In narrowing on full-fashioned knitting machines, it is essential that there be the least possible lateral motion of the needle-bar shaft that will still allow the shaft to reciprocate freely in its bearings during narrowing. Since a little displacement of the narrowing points may be caused by knots or thick places in the yarn and by pull of the fabric on the stitches on the two inner points in each narrowing, the idle needles ought to be centralized in the sinkers and knocking-over bits to prevent split or dropped stitches and sometimes broken needles.

This testing will be helpful in checking new machines, after each re-leveling, or when the machines fail to narrow properly. Where the knitting machines have divided needle-bar shafts, the parts of the holder may be turned so that the shafts may be tested for movement from each end of the knitting machine.

Since dial gages vary in size, the holder foot *d* should be made first. It should be of a length to clear the dial-gage stem. Then the clamping bar a and swivel head *b* should be made to suit the machine.

Bar a is to be clamped securely to the front bed of the machine. The gage-supporting rod c should be ad-



LATERAL MOTION of the needle-bar shaft of a full-fashioned-hosiery machine can be accurately tested with a micrometer gage and holder. Bar a is clamped to the front bed of the machine. The micrometer gage is then adjusted so that it touches the needle-bar shaft. Lateral motion of the shaft will be shown by the gage dial.

$200 for Best Kink in 1950
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In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month, maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men.

In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1950.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

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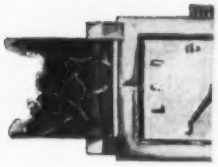

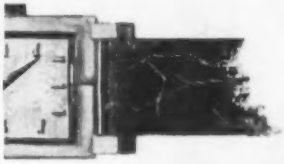

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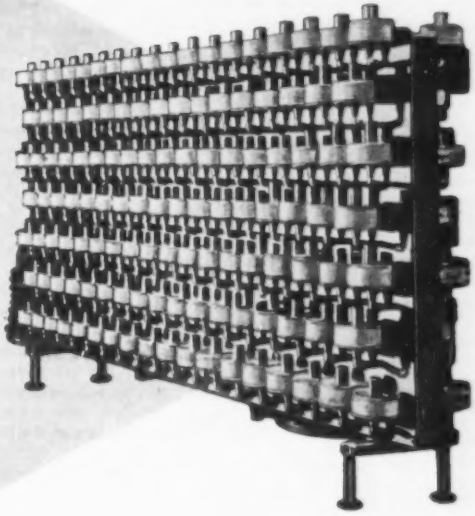

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justed so that it supports the dial gage in a position close to the center of the needle-bar shaft. Care should be taken to have the end of the needle-bar shaft perfectly clean and smooth during the testing.

Materials suggested are ¼x½-in. cold-rolled stock for the bars; a cold-rolled rod ⅜ in. in diameter for rod c; and ⅜-in.-diameter, 18-thread screws. *(K-1316)* Walter A. Simond, Essex Junction, Vt.

New Seamless Cams Proposed by Reader

Here is a kink that you might say was "dreamed up." I have not tried it on a machine, but a sound knowledge of hosiery knitting machines and years of experience with them indicate that this idea will work.

It is intended to help solve the difficult problem of uneven stitches on a seamless-hosiery machine.

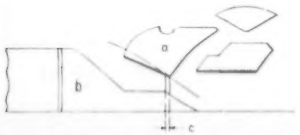
The casting-off points of the stitch cams in seamless-hosiery knitting machines are of varied widths to suit different gages of machines. The finer gages have the narrower points to prevent cutting of the fabric in the unavoidable yarn robbing.

Widening the stitch cam casting-off point is difficult and often unsatisfactory. It seems that cams fitted as shown in the accompanying sketch should give more uniform stitches.

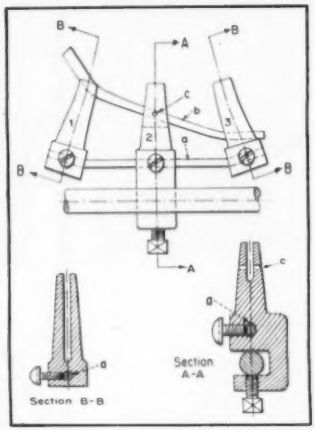
Stitch cam a and end cam b should be fitted so that width c is common to both cams at the points indicated. The height and length of end cam b would have to be empirically determined to suit the gage of the machine.

The height of the level on cam b should allow the stitches to be held closely without strain.

An auxiliary end cam may be used if the needles do not rise soon enough to clear for the reciprocating motion, but it does not appear to be needed for most makes of knitting machines. *(K-1445)*



THESE CAMS are proposed by a reader to improve stitch uniformity on a seamless-hosiery knitting machine. Stitch cam a and end cam b should overlap the width of c at the point indicated.



EMPTY WINDER BOBBINS are doffed mechanically with this arrangement. Rocker arm b works in slots in holders 1 and 3. When a full bobbin is placed on one holder, the arm raises in the other holder and pushes the empty bobbin off.

Empty Winder Bobbins Doffed Mechanically

We have obtained a winder-production increase of 8% on fine yarns and 12% on coarse yarns by the use of a homemade device that doffs empty bobbins.

A breakdown of the winder operation showed that considerable time was spent by the operator in removing empty bobbins from the holders in order to tie on full bobbins. We eliminated this part of the winder operator's job by working out a device to remove the empty bobbin mechanically.

We use split-drum winders of British manufacture. The bobbin holder is a small cone mounted on a rod. The standard holder is shown as 2 in the accompanying sketch.

The arrangement for doffing empty bobbins automatically consists of holders 1 and 3 and rocker arm b.

The device is made as follows:

Holder 2 is taken out of service as a holder for bobbins of yarn. It remains in place, but it is changed so that it does nothing but support holders 1 and 3.

A hole for rod a is drilled sidewise through holder 2, as shown in the sectional drawing A-A. A setscrew hole is tapped and threaded so that rod a can be held firmly in place.

In the top of holder 2 a slot for rocker arm b is cut, and b is pivoted in the slot by pin c.

Holders 1 and 3 are mounted on rod a and held by setscrews. Deep vertical slots are cut down through the tops of 1 and 3 as shown in sectional drawing B-B. Rocker arm b works in these slots.

Here's how the doffer is used:

In the position of rocker arm b shown in the sketch, there would be a bobbin of yarn running on holder 3. Holder 1 would have no bobbin on it.

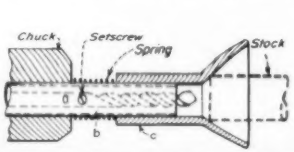
When the bobbin on 3 runs empty, the operator would put a full bobbin on holder 1. The bobbin would press rocker arm b down the slot in holder 1. As b went down at that end, it would rise at the other end, forcing the empty bobbin off holder 3. The bobbin would fall clear of the holder.

We have equipped all our winders with these doffers. *(K-1435)* S. T. Sorensen, Horsholm, Denmark

Gage for Round Stock Centers and Limits Drilling

The gage shown in the sketch has proved useful where there are a number of pieces of round stock up to 1½ in. in diameter that must have holes drilled in the ends.

The drill, ⅛ in. or more in diameter, is shown at a in the accompanying sketch. It is inclosed in brass tube b, which has a setscrew to hold the drill in position. The drill is set in the tube with the desired



CENTERING ROUND STOCK for end drilling is easily and quickly done with this guide. Drill a is inclosed by copper tube b, and collar c guides the stock into the drill point.

NO MORE *TIPPY* WOOL

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Send for Technical Service Bulletin #203-100.2 for complete information, including how to use ANTHOMINE for Top and Yarn Dyeing, Pressure or Package Dyeing, Leveling Unevenly Dyed Yarn or Shady Pieces, Dyeing Metallized Colors, etc.

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length extending beyond the end of the tube.

The slide with the cone-shaped end, c in the sketch, is placed on the brass tube after the tube has been fastened in the chuck. A small spiral spring over the copper tube holds the slide in position against the stock to be drilled.

The stock is placed against the cone as shown. It is pressed in until it comes into contact with the revolving drill. The length of drill extending beyond the shoulders of the brass tube governs the depth of the drilled hole. When the stock comes into contact with the end of the tube, drilling stops.

Stock held in a horizontal position in the cone will be perfectly centered for drilling.

It should be noted that the brass tube sustains the weight of the slide and there is no strain on the drill itself. Breakage of drills is reduced because of the small length of drill exposed beyond the supporting tube. Drilling can be done quicker because there is less trouble in centering the stock and no unnecessary depth is drilled. All holes are uniform to a predetermined depth.

An old drawing-sliver trumpet may be drilled out and adapted for the cone slide. *(K-1418)*

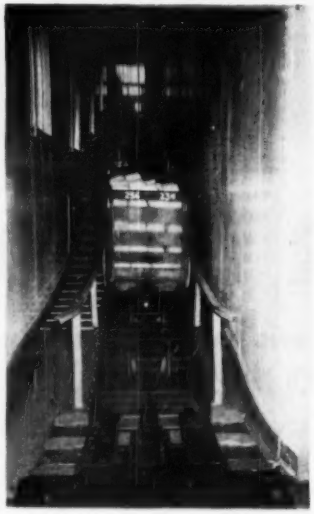
Cables Drawn in Conduit Through Guide Holes

When cables have to be drawn into a conduit, care must be taken in feeding the cables in to avoid crossing or distorting them.

It is advisable to use some form of guide so that the cables are given the position they should occupy in the conduit. The guide should be collapsible so that it can be removed from the wires if desired.

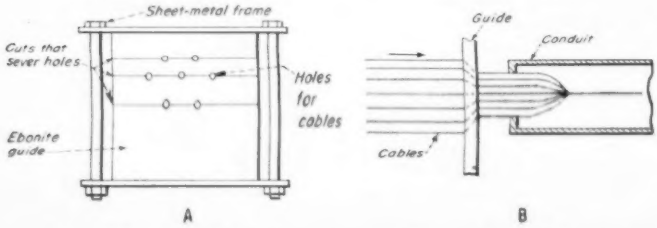
A good guide can be made from a piece of sheet ebonite about 4 in. square. It should be drilled with a series of holes for the wires, usually five or six. These holes are drilled through the ebonite at an angle to give the wires a slope toward the conduit mouth. They should be 50% larger than the wires to be drawn through and should be beveled and polished at the edges to reduce friction on the cables.

With a narrow-blade saw, cut the guide horizontally so that each hole is in two halves. These halves can be held together by a sheet-metal frame as shown in the sketch. *(K-1440)* *W. E. Warner, Essex, England*



Knitting-Yarn Trucks Conveyed by Escalator

AN ESCALATOR moving a truck of yarn from one floor to another is shown in use at Standard Knitting Mills, Knoxville, Tenn. The truck of yarn from the conditioning room was pushed onto the three metal runners in the foreground. Fingers on the escalator track moved up between the metal runners and caught a metal plate attached to the under side of the truck. At the top landing, the escalator fingers will move below the floor level and disengage the truck. (K-1317) E. Dalton White, Atlanta, Ga.



***FEEDING CABLES** into a conduit so that they do not get crossed is more easily done with this guide. Construction of the guide is shown at A. Its use is indicated at B.*

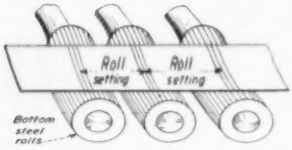
One Way to Measure Steel-Roll Settings

This method of measuring steel-roll settings on drawing, roving, and spinning frames gives quick and fairly accurate results.

Place a strip of white paper about ¾ in. wide across the rolls as shown in the accompanying sketch. Hold the paper in position and rub a flat steel or wooden rule over the paper to press it firmly against the rolls.

The paper will be soiled or marked clearly enough to locate the center flutes on the steel rolls. Measuring from the center of each group of marks will give the settings of the rolls.

In case the marking is not clear enough, a strip of carbon paper can be used over or under the strip of white paper. *(K-1432)*



***STEEL-ROLL SETTINGS** are quickly measured by this method. Place a strip of white paper across the rolls, and rub a rule over the paper lengthwise to the rolls. Measure from the center flute mark at one roll to the center mark at the next roll.*

How to Loosen Stuck Spindles

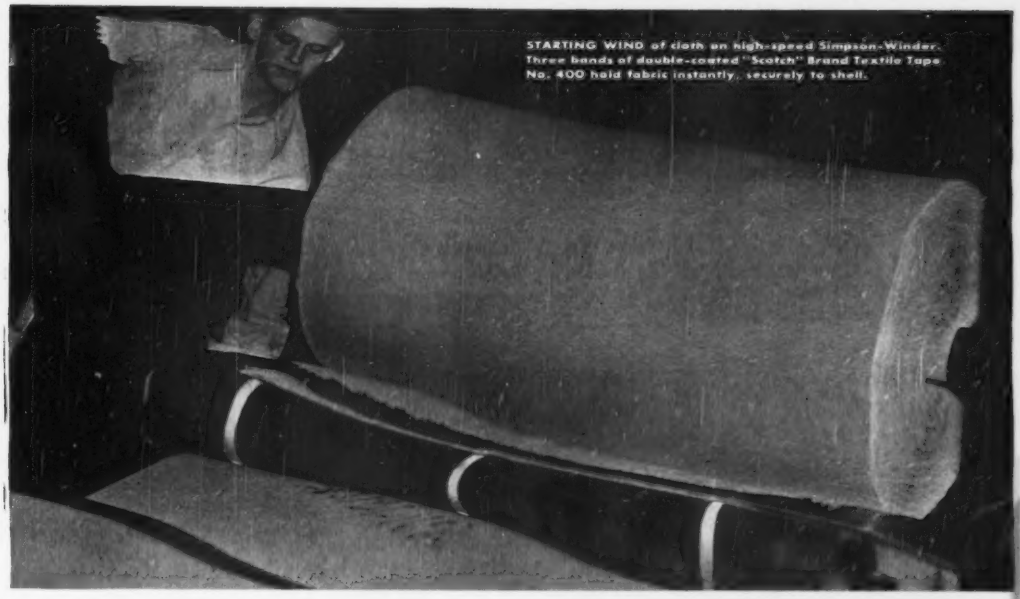
I have found the following method a good way to treat stuck spindles on roving frames.

Use a scratch awl to mark the position of the bolster on the bobbin rail. Loosen and remove the bolster and spindle without disturbing the spindle gear. The frame may be started up when the bolster and spindle are removed.

Run cold water over the bolster and spindle until both are cool. Place the bolster upright in a vise and tap the top of the spindle with hardwood or a lead hammer.

When the spindle is removed, scrape the inside of the bolster and force through stripping waste until the bolster is well cleaned. Oil the inside of the bolster thoroughly, and replace the spindle and bolster at the next doffing time. Tighten the bolster to the mark made on the rail with the awl. No further setting is required.

This method saves time, trouble, and increases production. *(K-1431)* *William Shaw, Providence, R. I.*



STARTING WIND of cloth on high-speed Simpson-Winder. Three bands of double-coated "Scotch" Brand Textile Tape No. 400 hold fabric instantly, securely to shell.

Tape stops material waste!

New rolls started without wetting, thanks to "SCOTCH" Textile Tape

Now it is no longer necessary to spoil yards of cloth by wetting down the ends during windup. "SCOTCH" Textile Tape No. 400 does a perfect job of starting new rolls with winder machines running. Adhesive on one side sticks this double-coated tape to the empty shell. Exposed adhesive on the other side grabs and holds end of fabric being wound.

And this tape is only one of many "SCOTCH" Textile Tapes that speed and simplify dozens of production operations. From start to finish, these tapes can increase your savings, boost output, improve quality for you. Have your Time-Study Department check this modern "textile tool." Write Dept. TW10 for full information.

SECURING WARP THREADS for immediate full-speed beaming with "SCOTCH" Textile Tape No. 254. Only gentle hand pressure needed, and tape doesn't damage threads.

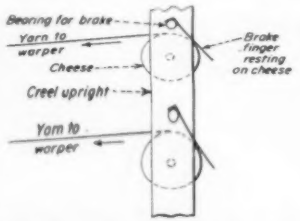
TABBING END LAPS safely with short strips of "SCOTCH" Textile Tape No. 916. No pin damage to cloth. High stretch factor of tape allows for contraction of material after winding.

Made in U. S. A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of other "Scotch" Brand Pressure-Sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: Durex Abrasives Corp., New Rochelle, N. Y. In Canada: Canadian Durex Abrasives Ltd., Brantford, Ontario.

Warper-Cheese Brake Stops Sagging of Ends

Warping from cheeses is very convenient in certain cases, and considerable warping is done by this method. A slight drag on the ends is desirable to reduce to some extent variations in tension caused by unwinding and also to reduce ends sagging and twisting around each other when the warper is stopped and cheeses continue to turn.

Drag can be exerted by a small metal finger placed so that it rides the cheese as shown in the sketch. The finger is attached to a light shaft pivoted in bearings fastened to the uprights of the creel. The weight of the finger rests on the surface of the cheese. As the cheese diameter decreases, the finger swings down to maintain contact with the cheese. (K-1433)



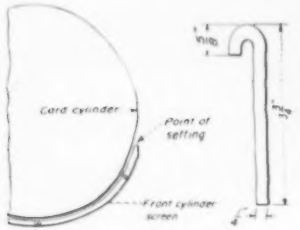
A CHEESE BRAKE that reduces tension variations and free running of a cheese in the creel of a warper is shown here. It consists of a smooth metal finger that bears by gravity against the cheese.

Cylinder-Screen Gage

It is difficult to get a good setting between the nose of the cylinder screen and the cylinder on a card with regular leaf gages.

For many years I have used a gage made from a piece of flat steel stock ¼ in. thick, 1 in. wide, and about 4 in. long. It is bent over at one end to form a hook that fits the nose of the screen between the cylinder and doffer.

The gage is inserted through the panel space in the side of the card, and the bent end of the gage is hung over the nose of the screen. One side of the screen is set, and then the gage is placed on the opposite side. The first side set should be checked again to make sure there has been no movement of the screen during the setting of the second side. (K-1434) T. J. McCarthy, New Bedford, Mass.



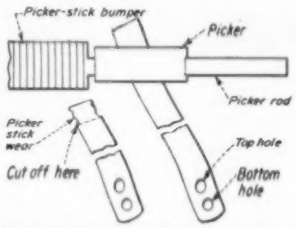
A CYLINDER-SCREEN GAGE made as shown here is used in one mill for obtaining more accurate settings of the screen nose. The gage is made of ¼ x 1-in. stock bent as shown

How to Double Picker-Stick Life

In order to prolong the useful life of the new-type laminated wooden picker stick, two holes should be drilled for the heel stud.

Use the top hole and run the stick until it wears out at the point where the stick is in contact with the picker. When wear occurs, cut off the worn top part and move the picker stick up so that the heel stud is in the bottom hole. This position will raise the stick to its proper running position at the picker.

The stick will run until it wears again at the picker. (K-1439)



PICKER-STICK LIFE, when the new-type laminated stick is used, can be approximately doubled by the method illustrated here. Drill two heel-stud holes. When the stick wears at the picker, cut off the top part of the stick and move the heel stud to the bottom hole.

Best-Kink Award
For August

Each month TEXTILE WORLD awards $25 to the submitter of the kink which is judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for August, according to TEXTILE WORLD reader-judges, was:

"Cloth Inspected With Under-Lighting"

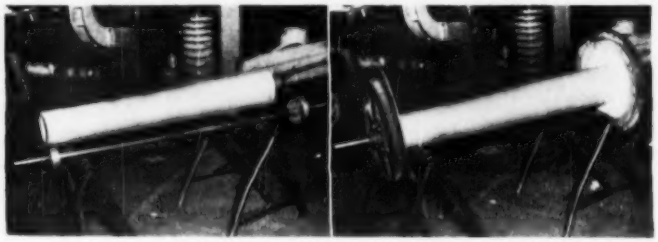
By Maurice A. Morrisseau
Quebec, Canada

Mr. Morrisseau is being sent a check for $25 with the compliments of TEXTILE WORLD.

Copper Wire Handled With Magnetic Rod

Magnetism can be used to advantage sometimes in handling insulated copper wire. Just wrap a few turns of iron wire over the insulation, and use a magnetic rod to attract the iron. The insulated wire can be manipulated as desired.

In some instances, the magnetic rod is useful for placing an end of the copper wire in a terminal, fishing it through a pipe, raising it over an obstruction,. etc. (K-1402) W. E Warner, Essex, England



A B

Warp-Beam Barrel Made of Paper Tube

PAPER TUBES are used for beam barrels in experiments being run by one mill. Photograph A shows how the tubes are installed on the beam, and B shows a beam ready for use. An alternative method is to turn down the wooden barrel of the beam and use it as a core for the paper tube. (K-1443) Sonoco Products Co.

Knitting News

NEW SUPREME AUTOMATIC STRIPERS FASTEST IN THE WORLD

Knitters Get Tremendous Production Bonus On Pattern Placer Cloth, Variable Stripes, Plaids, Designs And Patterns

In mills throughout the world, Supreme Automatic Variable Stripers are outproducing competitive equipment by far and are achieving new highs in production rates. These faster knitting rates are the result of exclusive Supreme design developments.

STATIONARY HEAD

Supreme's Stripers use a stationary yarn stand and a high speed revolving cylinder and take-up. This permits higher, super-fast knitting speeds coupled with trouble-free operation. "Pigtail" double tie-ups of yarn cones can be made and each cone used down to the very end.

NEW INGENIOUS, AUTOMATIC STRIPING SYSTEM

Embodied in the Supreme Striper line is a patented and concealed camming method for changing colors of the yarn in the striping feeds. This new method is an entirely new concept in selective striping equipment. A simple, short chain will give any type of horizontal stripe selection desired and will also control the point at which jersey fabrics will be knitted. The chain consists of only a few types of links which count each revolution of the machine and institute changes.

NO-WASTE CUTTERS MINIMIZE FINISHING COSTS

An exclusive Supreme feature available on all Stripers is the new "Synchronized Cutters" which eliminate all waste when changing colors. At the correct instant, the yarn that is going out of action is clipped off close to the narrow seam. It is then held in a unique clamping device along with the other yarns, each ready to go back into action the moment the pattern calls for it.

SUPREME
KNITTING MACHINE CO., INC.
107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

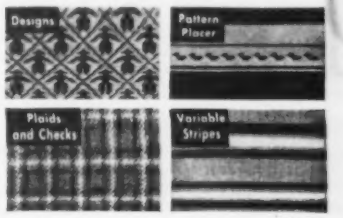
Supreme Automatic Stripers Out-Knit Competition For Stinson Knitting Mills, Inc., Brooklyn, N. Y.

SUPREME STRIPER LINE GIVES KNITTERS "SWITCHABILITY" TO MEET SHIFTING DEMANDS

Supreme Stripers equipped with Automatic Pattern Placers knit a tremendous variety of fabrics such as, plaids, checks, designs, variable stripes or Pattern Placer Cloth. This varied production can all be done on one multi-purpose machine, giving the knitter extraordinary versatility. He can switch from one type of fabric to another whenever the market demands.

INDIVIDUAL PURPOSE MACHINES READILY ADAPTED TO MULTIPLE-USE

Where the knitter plans to produce only one type of cloth he may find the purchase of a single purpose Supreme striper more economical. Supreme's engineering design makes it possible for the knitter to adapt these individual purpose machines to multi-use production. This can be done by the knitter at any time he desires, right on the spot in his own mill.



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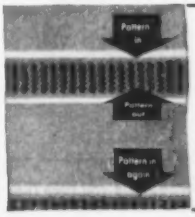


AVAILABLE ON SUPREME'S STRIPER LINE — INDIVIDUALLY OR SIMULTANEOUSLY CONTROLLED PATTERN PLACERS

This new device enables the knitter to place a pattern wherever he wants in plain or striped jersey cloth. Now available; Individually or simultaneously controlled Pattern Placers on all feeds make possible more versatile patterning, larger pattern areas, more production and more unusual fabrics.

 For more information, write direct or use Reader Service post card.

Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

Reduce Trash in Yarn by Close Check on Pickers

Several mill-men have stated that last year's cotton crop was the sorriest in many years for staple and trash content. This excessive amount of trash will require close attention to the picker processing in order to prevent it from getting into the roving and yarn.

When running fairly clean cotton, beater blows per inch are generally reduced to a minimum to prevent fiber damage. This reduction can be carried too far. Yarn appearance may be more important than yarn strength. When cotton is reported as being trashier than in previous crops, means must be found to maintain yarn quality. A check on items mentioned later on will help in removing a greater amount of this excessive trash.

Fan speeds should be high enough to take out the heavier trash and prevent it from breaking up in the following processes. A slight increase in present speeds should be tried, and its effect on trash removal noted. Check on fan blades, belts, and leathers on screen ends.

Grid bars can be checked for setting to beater, opening between bars, and angle of bars. A too-close setting will not permit the large trash to fall through, and a too-wide setting will cause loss of good staple. Increased angle and exposed upper edge of grid bars will often help in heavy trash removal.

Beater speeds may be increased slightly to aid in removing trash. Sharp beaters are more efficient in cleaning than dull beaters. Correct settings to feed rolls and cut-off plates are essential.

Waste compartments and dust boxes must be emptied at regular intervals. Boxes under grid bars on cleaning trunks and Superior cleaners should be kept clean at all times to permit removal of trash. Sweeping waste and reworkable waste that contain trash should not be fed into the hopper.

It will be found that excessive humidity causes dirt and trash to cling to the cotton mass and increases difficulty in removing it. About 55% relative humidity will be suitable for picker rooms.

The grade of cotton in each bale received can be checked very closely. A few rejected bales for "off-grade" will keep the shipper careful to see that all future shipments are up to normal grade or type. *(R-645, R. H. Pharr, Carrollton, Ga.)*

Three Loom Motions May Cause Waviness

Wavy cloth is a fabric defect in which there is a variation of filling density in the cloth. This variation may be caused by uneven filling yarn or by the uneven spacing of the filling in the weaving of the cloth.

Uneven filling is a yarn defect and nothing can be done on the loom to correct it. I wish to discuss the wavy condition due to the uneven spacing of the picks in the cloth. This waviness may vary from "chattery" which repeats on three or four picks, up to the more common waviness which repeats on one or two inches and makes bar marks across the cloth. This latter type of waviness is caused by some incorrect adjustment or mechanical defect on the loom.

Uneven filling spacing can usually be traced to one or more of the motions which control the spacing of filling in the cloth: the take-up mo-

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"Yes, it is pretty, but did you take into consideration the effect that fabric construction has upon dimensional stability?"

try TECA* fiber

for size

Sportshirt business has grown to big business from the sportshirt that holds its size—before and after washing.

TECA supplies the fiber stability for some of today's most successful shirtings. When blended with less stable fibers in spuns, TECA acts as a natural control, minimizing shrinking and stretching.

Alert shirtmakers specify fabrics woven with percentages of TECA fiber. Alert retailers capitalize on the TECA fiber trade-mark—featured above all others in the sportshirt field.

For information about TECA, consult A. M. Tenney Associates, Inc., 10 East 40th Street, New York 16, sales representatives for TENNESSEE EASTMAN CORPORATION.

Tennessee Eastman Corporation

(Subsidiary of Eastman Kodak Company)

KINGSPORT, TENNESSEE

* *Teca is an Eastman trade-mark. It identifies a short crimped fiber made by Eastman from cellulose acetate—a fiber otherwise known as estron or acetate rayon staple.*

tion, the reed motion, and the let-off motion. Anything that prevents the proper functioning of these motions may cause wavy cloth.

Some of the faults in the take-up motion that may cause wavy cloth are: sand drum loose on journal, sand-drum bearings badly worn, take-up gears set too deeply, intermediate-gear bearings loose, improper pick-wheel setting, and take-up pawl lever loose.

The take-up motion is less likely to cause wavy cloth than either the reed motion or the let-off motion. A check on the condition and adjustment of take-up motion every time a new warp is mounted should be sufficient attention to prevent wavy cloth from this cause.

The reed motion places each pick in place across the cloth, and its condition must be good to prevent reed marks in the cloth. Some mechanical defects or adjustments that may cause wavy cloth are: lay sword loose, pitman-arm bearings loose, clutch slipping, motor pinion loose, and reed cradle strained or binding. The reed cradle must work freely and have proper tension on cradle springs to allow about ¼-in. vibration, and it must rest firmly against reed-alignment bolts. The master reed bolts should not have more than ¼-in. vibration.

The Bartlett automatic let-off motion is a very complicated motion. Unless all parts are in good condition and properly adjusted, this motion can cause more wavy cloth than the other two motions mentioned.

Other mechanical defects and improper settings that may cause wavy cloth are: let-off friction band too tight or too loose on friction cam, beam gear set too deeply into let-off gear (allow about 1/32-in. play), worm-shaft and worm-gear-shaft bearings worn, and incorrect alignment of gear-shaft bearings.

Pallets of uneven length can make wavy cloth if the warp beam is one-half full or larger. This waviness may diminish as the beam gets smaller. The four pallets on ratchet wheel are spaced by the pallet lever so that one pallet will fall over the point of a ratchet tooth every 1/16-in. movement of pallet lever back stroke. Pallets must be of correct length to insure uniform let-off on each pick.

A gage for checking pallets on the loom can be made from a snap-on plier wrench with a hole bored in line of pallet lever and tapped for a thumb screw with 16 threads per inch. Attention should be given to vibrator rod and upright lever to prevent rubbing or binding and thus cause failure to register accurately warp tension on pallet lever rod and collar. *(R-646, W. P. Craig, Bristol, Tenn.)*

Draw-Frame Elimination May Not Be for You

There have been previous comments in Round Table on process elimination in cotton manufacturing. Since the year 1922, to my knowledge, mill-men have eliminated the drawing frame on certain classes of work. When running coarse yarn for knitting and braiding, yarns for backing, cheap yarn for wire insulation, and mop yarns, the elimination of the drawing process has given sufficiently good results and has reduced labor and maintenance cost. However, when a smooth, fine yarn and a cloth of good appearance is desired, the actual net savings of this elimination may be questionable.

There are many factors to be considered in this matter of net savings. None of these factors can be omitted nor ignored for a fair evaluation. Yarn appearance may be of first importance on some goods, while yarn strength is essential on others, and resistance to abrasion is required on many industrial fabrics. All these quality requirements may be obtained, and yet the processing behavior of non-draw-frame sliver on subsequent processes may offset any assumed savings.

Increased ends down on slubbers is probably the most apparent effect of draw-frame elimination. Lower efficiency on slubbers offsets part of the savings. A large amount of end breakage is caused by light sliver. This light sliver would normally be removed by the drawing or be evened up by doubling on one or more processes of drawing.

I find that the greater part of this light sliver is made immediately after stripping. The sliver should be allowed to run on the floor for one or two minutes after stripping, and this sliver put into reworkable waste. Increased card front waste is another loss to be deducted from gross savings when omitting the drawing process.

My experience shows that all cot-

(Continued on page 198)

TEST YOUR TEXTILE I Q

► Each correct answer rates 10 points. A total of 70 is passing; 80, good; 90, excellent; 100—you're a genius! Keys to answers are on page 182.

1. The most modern method of obtaining constant heat circulation in dryers is based on the use of:
   a. Turbulent flow of steam
   b. Flash-steam traps
   c. Blowers
   d. Suction fans

2. Multiple drawing will result in:
   a. Decrease in neps
   b. Increase in elongation
   c. Decrease in strength
   d. Increase in uniformity

3. In changing from cotton to rayon on pickers, the following changes should be made:
   a. Increase blows per inch
   b. Open grid bars
   c. Reduce calender-roll pressure
   d. Increase rate of feed

4. The largest number of electrical fires occur in the:
   a. Weave room
   b. Spinning room
   c. Card room
   d. Picker room

5. The use of a water-softening system will result in:
   a. More uniform shade
   b. More uniform color
   c. Better hand of fabric
   d. Greater production

6. Drafts are claimed for the Ambler spinning system up to:
   a. 1,000
   b. 5,000
   c. 10,000
   d. 15,000

7. What percent moisture should be left in a cotton warp after slashing?
   a. 1½ to 3%
   b. 3 to 5½%
   c. 6 to 8½%
   d. 9 to 11%

8. The predominant gage of full-fashioned hosiery in 1950 was:
   a. 42 gage and lower
   d. 45 gage
   c. 48 gage
   d. 51 gage and higher

9. A new comber, the Termacomber, has a new principle of:
   a. Feeding
   b. Detaching
   c. Nipping
   d. Top combing

10. A job which is underloaded will result in:
   a. Higher wage rates
   b. Lower plant production
   c. Higher machine and labor costs
   d. Lower efficiency

Controlling Mill Temperatures and Insulating Costs

PC FOAMGLAS

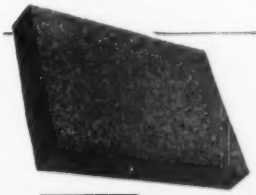
the long life insulation

On this new dye plant at French Dyeing and Finishing Corporation, Laconia, New Hampshire, sandwich curtain walls of corrugated siding are insulated with PC Foamglas. The strong, rigid Foamglas blocks support their own weight—insure a long lasting barrier to vapor transfer and to heat and cold. Foamglas is also used to insulate the roof of this building.

SUPERINTENDENTS of textile mills have found, in PC Foamglas, the solution to many of their most pressing insulating problems. In walls and floors, roofs and ceilings, PC Foamglas has proved its ability to meet the most exacting insulating requirements and to keep insulating costs low.

Being cellular glass, Foamglas is a natural heat retardant, an effective aid in maintaining desired temperature and humidity levels. Its unusually high resistance to moisture, vapor and many other destructive elements —and resultant freedom from costly repairs, maintenance and replacements—makes Foamglas a truly economical insulation. In fact, when properly installed, PC Foamglas *retains* its original insulating efficiency.

When you are figuring on insulation, make sure you have the latest information on PC Foamglas, the effective, economical material. You will find it in our recently-published booklet which contains descriptive text and photos of recent jobs, charts, tables, up-to-date specifications and installation instructions. Just send in the convenient coupon and you will receive promptly a sample of Foamglas and your free copy of the booklet.



This is FOAMGLAS®

The entire strong, rigid block is composed of millions of sealed glass bubbles. They form a continuous structure which has unusually high resistance to moisture, vapor and acid atmospheres, is noncombustible, verminproof and odorless. In those closed glass cells, which contain still air, lies the secret of the material's long life insulating efficiency.

Pittsburgh Corning Corporation
Dept. M-100, 307 Fourth Avenue
Pittsburgh 22, Pa.

Please send me without obligation, a sample of Foamglas and your FREE folder on the use of PC Foamglas Insulation for Industrial, Commercial and Public Buildings.

Name.....

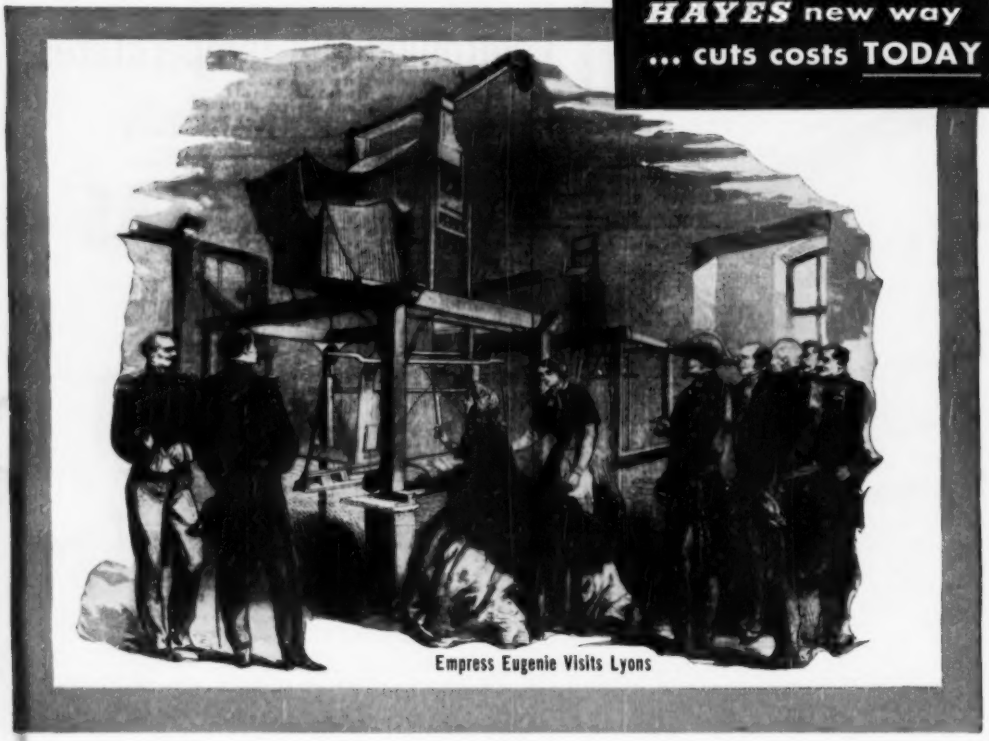
Address.....

City.....State.....

PITTSBURGH ® PC CORNING **FOAMGLAS INSULATION**

... when you insulate with FOAMGLAS... the insulation lasts!

HAYES new way
... cuts costs **TODAY**

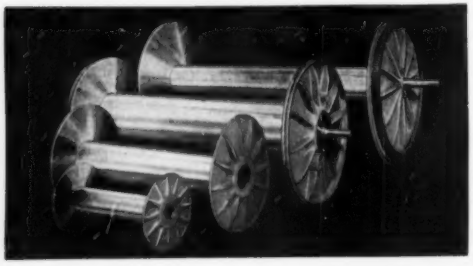


Empress Eugenie Visits Lyons

Modern Mills Reduce Costs with Light Metal Beams

Imagine! Empress Eugenie worked the loom herself . . . and all Lyons was thrilled as the royal lady viewed their progressive textile center. And why not? For here, not many years before, Jacquard had invented his notable pattern-weaving loom, a major development.

A modern development . . . one that appreciably reduces the costs of production . . . is Aluminum and Magnesium beams. Beams made of these light metals, by Hayes Industries, weigh less than half as much as conventional types. Every time a beam, loaded or empty, is shipped or handled, there is a saving. With modern volume production this saving adds up to a respectable percent of profit.



Besides shipping costs, there are numerous other advantages. Because they do not splinter, snag or rust, like wood beams and cast iron, there are fewer rejects and seconds using light metal beams. Selvage edges are perfect, due to low head deflection. Fine balance permits top machine speeds . . . maximum production.

Perhaps your profit is less because costs are high. Investigate Hayes light metal beams . . . and learn their profit-building potential.

Ask for New Hayes Catalog 100.

HAYES
INDUSTRIES, INC.

HOME OFFICE: Jackson, Michigan

Free Technical Information

Reader Service

MILL EXECUTIVES may obtain free for the asking . . .

. . . OUTSTANDING TRADE LITERATURE reviewed on the next and following pages

. . . FURTHER INFORMATION on
New Textile Equipment
New Dyes & Chemicals
New Useful Accessories
Editorial Articles
and the Advertisements

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. . . to send a Kink, a letter for Round Table, or a news note

. . . to comment on anything appearing in this issue

. . . to query the editors about any manuscripts you might wish to submit to them

. . . to send an inquiry to the Questions & Answers department

Cards require no postage . . . but be sure to give your name, title, mill connection, and address (particularly essential in the case of the bottom card).

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. . . to request copies of trade literature described on the next and following pages

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(If more than one editorial item or advertisement appears on a page, identify the one in which you are interested.)

Dear Editor: OCTOBER, 1950

Name..... Title..... Mill.....

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Please send me the following: OCTOBER, 1950

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This Card Expires January 31, 1951

Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS... Listed here for October are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

PROCESS EQUIPMENT

A Battery-powered spindle oiler is featured in a folder issued by Brown Dynalube Co. A description and specifications of this spindle oiler are given. The capabilities of the machine are explained and are illustrated with the aid of photographs. **(F-1)**

Materials-handling trucks are featured in a catalog released by the Hyster Co. The catalog describes five models of the Hyster-Salsbury turret truck, formerly manufactured by the Salsbury Corp., Los Angeles, and now taken over by the Hystar Co. **(F-2)**

Spinning and twisting spindles and precision machine parts are illustrated in a bulletin released by Ex-Cell-O Corp. The bulletin also illustrates and describes the facilities and services available for manufacturing assemblies to customer specifications. Included also is a set of photographs illustrating the heat-treating process used in manufacturing precision equipment and parts. **(F-3)**

Trucks for warp **beams**, cloth beams, and sectional beams are described in a folder released by J. W. Lewis & Co. The specifications and capacity of each type of truck are given in the folder, which also has illustrations of the complete line of trucks manufactured by Lewis. **(F-4)**

Dyehouse and finishing machines are illustrated and described in a folder published by Textile Machinery, Inc. The items described include stainless-steel dye machines and lap trucks, and batch cans and carriers. It also illustrates steel towers, pressure tanks, and mixing tanks. **(F-5)**

Dyeing and finishing machines are described in a series of seven circulars released by Birch Brothers, Inc. The circulars describe a heavy squeeze-roll unit for padding and extracting, a ceiling-type folder with swing rolls, a new two-roll batcher, four- and seven-tank open-width machines for scouring, a tandem mangle, and a two-roll heavy-duty padder. **(F-6)**

Textile trucks and boxes of all types are pictured and described in a catalog published by J. C. Paddock Co. The catalog features doff boxes and trucks, roving-can trucks, lap trucks, comber-lap and spool trucks, quill cans and trucks, cone trucks, battery-filler trucks and boxes, pin trucks, cloth trucks, warp trucks, platform trucks, conditioning trucks, and work benches. **(F-7)**

Brushes as integral parts of textile machines are described in an illustrated booklet published by Fuller Brush Co. Textile brushes covered include those used in cotton carding and thread dressing; worsted dabbing, carding; on dryers, heaters, and feed rolls; and on jute machinery. **(F-8)**

A nine-cylinder, high-speed slasher, which is built very heavily to eliminate vibration when it is operating at high speed, is described in a circular issued by Cocker Machine & Foundry Co. This slasher has a ball-bearing creel; stainless-steel size box; patented, compensating loom-beam drive to control friction; and can accommodate seven, nine, or eleven 30-in. diameter cylinders. **(F-9)**

A high-speed collecting beamer is described in a circular released by Cocker Machine & Foundry Co. This beamer is built for any width of loom beam, and it can be operated at speeds up to 150 yd. per min. It has a variable-speed transmission for maintaining constant winding speed. **(F-10)**

A high-speed ball warper with magazine cone creel is described in a circular issued by Cocker Machine & Foundry Co. This warper is of heavy construction, so that it can operate at maximum speeds with a minimum of vibration and wear. It has a magnetic brake for quickly stopping the machine when ends break and for other purposes. **(F-11)**

A latch-needle knitting accessory called the Knitmaster is described in a folder released by Knitmaster Co. The Knitmaster is a gage used to set the stitch on knitting machines. **(F-12)**

SUPPLIES AND CHEMICALS

Zeolite water softeners are described in a folder released by Cochrane Corp. The dimensions and capacities of the junior industrial types of zeolite softeners are given in a table and in diagrams. Exchange materials and capacities are also reviewed. **(F-13)**

The oxidation of vat dyes is discussed in the August issue of *Dyelines and Bylines* published by Calco Chemical Div., American Cyanamid Co. Methods of oxidation of various dye formulas and precautions

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to be taken are discussed in the publication. **(F-14)**

Solid fatty acids made by Emery Industries, Inc., are described in a booklet published by that firm. The booklet gives complete information on specifications, stability, composition, quality, uniformity, and their effect on finished products utilizing fatty acids. **(F-15)**

Meta-clean, a solution used to clean machinery, is described in a bulletin released by Cecil H. Jarrett Co., Inc. The method of cleaning dirty and oily machinery with the solution and air pressure required is outlined in the bulletin, and prices of the product are given. **(F-16)**

"Special finishes for Service, Protection, and Appearance" is the title of a booklet issued by United States Testing Co., Inc. This booklet lists, in directory form, the trade names and manufacturers of various finishes. It also gives the type of fibers to which each finish may be applied. **(F-17)**

Measurement of dye strengths is discussed in a bulletin prepared by Calco Chemical Div., American Cyanamid Co. The bulletin is chiefly concerned with methods of evaluating the strength of dyes. It describes the Pineo modification of the Kubelka and Munk formula, which relates dye concentration on fibers to reflectance of monochromatic light. **(F-18)**

Chlorine pickup by fabrics containing nitrogenous resins when subjected to hypochlorite-bleaching baths is the subject of a 6,000-word research report prepared by Rohm & Haas Co. The study includes 10 tables of test data, and relates principally to rayon fabrics treated with urea-formaldehyde and melamine-formaldehyde resins. **(F-19)**

Resorcinol, a water-soluble, crystalline, dihydric phenol, is discussed in a bulletin published by the Chemical Div., Koppers Co., Inc. This technical bulletin describes the physical and chemical nature, the uses, and chemical reactions of Resorcinol. It also includes information pertaining to grades available, containers, handling, and storage. **(F-20)**

Demineralized water is discussed in a catalog issued by Barnstead Still & Sterilizer Co. The catalog describes in detail the difference between distilled and demineralized water. It also cites case histories on quality control of water that have resulted in better products and the reduction of costs in plant operations. **(F-21)**

Canvas and rubber bags for the textile and other industries are described in a booklet published by C. R. Daniels, Inc. Items of interest to the textile manufacturer includes shipping hampers, shipping bags, tool bags, messenger bags, and depository bags. **(F-22)**

The control of mildew, by an agent called paradichlorobenzene is described in an illustrated bulletin released by Monsanto Chemical Co. The bulletin outlines laboratory and field studies of this chemical as a volatile fungistat (prevents growth). It also gives properties and specifications of the chemical, a summary of previous work, use recommendations, and a bibliography. **(F-23)**

Loom sheaves are described in a folder released by Wakefield Bearing Corp. The folder gives the specifications for each type of sheave. **(F-24)**

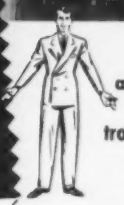
CONTROL EQUIPMENT

Gradumatic humidification is described in the July issue of *Parks' Parables*, published by Parks-Cramer Co. The booklet explains how and why the graduated system of direct humidification was developed. It also gives the capabilities of the system. **(F-25)**

Multi-nozzle atomizing heads are described in a folder issued by Industrialaire Co., Inc. The folder describes the various types of atomizing heads manufactured by Industrialaire and gives the recommended use for each type. **(F-26)**

A new pneumatic atomizer known as the Type ESC is described in a circular issued by Bahnson Co. The illustrated circular outlines the application of this

Install the Walton SYSTEM



Requires simple electrical and water supply connections, provides most effective controlled distribution of humidity, needs far less maintenance, skill, time or expense.

FOR Spot, Booster OR Complete Automatic Humidification

Install WALTON for every humidification need. For spot, booster or automatic, zone-controlled systems WALTON offers dependable, economical performance featuring simplicity and ease of installation. WALTON Systems require no floor space—can be installed anywhere without loss of production time. Adaptable to areas with either high or low ceilings, WALTON Systems can be easily removed to new locations, quickly, at a minimum of cost. Investigate the many exclusive advantages offered by the WALTON Unit Humidification System—you'll agree it's the one practical choice.

NEW free booklet GIVES ALL THE FACTS

This informative illustrated catalog describes the many advantages of WALTON Humidifier Systems for the textile industry — Included are many typical installations. Copies are available now — MAIL COUPON TODAY.

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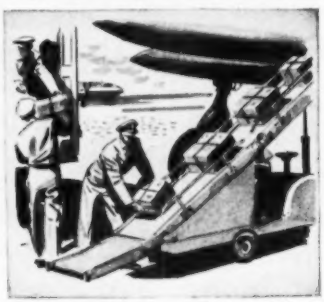
Completes 300 TV sets— meets daily quota (at a cost of $4.70)

Delicate coils were needed by Midwest manufacturer to complete 300 TV sets . . . and Massachusetts supplier was 920 miles distant! Air Express assured delivery by 8 o'clock next morning, so manufacturer ordered 500 men to report for work. Shipment arrived 7:20 A.M.—production rolled! Shipping cost for 17-lb. carton only $4.70! Manufacturer uses Air Express regularly to keep business in high gear.

$4.70—and special pick-up and delivery included! Low Air Express rates cover door-to-door service. More convenient—easy to use. Just phone for pick-up! (Many low commodity rates in effect. Investigate.)



Air Express goes on all flights of Scheduled Airlines. Shipments keep moving around the clock—speeds up to 5 miles a minute. *Experienced* handling. Phone Air Express Division, Railway Express Agency, for *fast action*.

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World's fastest transportation method.
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1150 cities served direct by air; air-rail to 22,000 off-airline points.
Experienced Air Express has handled over 25 million shipments.

AIR EXPRESS
GETS THERE FIRST

Rates include pick-up and delivery door to door in all principal towns and cities

A service of
Railway Express Agency and the
SCHEDULED AIRLINES of the U.S.

type atomizer, its installation, and the control unit to be used with it. **(F-27)**

A self-cleaning atomizer, which cleans automatically, is described in a folder issued by Jackson Moistening Co., Inc. This folder lists the outstanding features of the automatic self-cleaning atomizer and outlines its capabilities and capacities. **(F-28)**

Measurement of fiber fineness is explained and described in a circular released by Sheffield Corp. The circular features a detailed description of the construction and operation of the Sheffield Micronaire, and it outlines methods of interpreting the results of fineness tests. **(F-29)**

"Textile terms for Better Understanding" has been published in a revised edition by United States Testing Co., Inc. The booklet lists important tests of merchandise used by the U. S. Testing Co. It defines textile terminology and lists the apparatus used in specific tests. Standard and minimum specifications are given if available. **(F-30)**

The taber abraser, Model 140, is described in a new folder issued by Taber Instrument Corp. The folder describes the capabilities of the Model 140 standard abrasion-testing set. It also illustrates the operating procedure for using the machine, and covers the general principles of evaluating its results. **(F-31)**

Research microscopes are featured in a catalog published by Bausch & Lomb Optical Co. The catalog illustrates and describes a new series of research microscopes, and it gives the uses of each type. The catalog also includes a number of accessories to be used with these research microscopes. **(F-32)**

A caustic-bath density-control system is described in a folder released by The Foxboro Co. The folder illustrates the control system with a technical drawing, and it describes the operation and installation of the system. **(F-33)**

A regain-control system at a constant slasher speed, installed in Startex Mills, Startex, S. C., is described in *Instrumentation* a magazine published by Minneapolis-Honeywell Regulator Co. The article describes the function of the cascade control, and it outlines the operation of the system. **(F-34)**

ENGINEERING DATA

Oilless and self-lubricating bearings are described in a new catalog published by Wakefield Bearing Corp. This catalog describes bearings which are lubricated by the solid-lubricant principle and oilless bearings. It gives specifications for each type of bearing. A companion folder gives the complete specification of stock-size bearings manufactured by Wakefield. **(F-35)**

Gear couplings are described in a pamphlet issued by Frank W. Egan & Co. The pamphlet describes, with the aid of illustrations, the cler-bath gear coupling for "perfect alignment." It gives engineering instructions for use, together with horsepower ratings and prices of each size. **(F-36)**

Maintenance and sanitation questions are given specific answers in a 16-page illustrated booklet released by G. H. Tennant Co. It is a reprint of an address by J. Lloyd Barron, C.E. manager of the sanitation dept., National Biscuit Co. **(F-37)**

Industrial-water problems of all kinds—procurement, treatment, usage, and disposal—and the facilities and services offered in coping with these problems are described and charted in a booklet published by Hall Laboratories, Inc. The booklet, entitled "Your Most Important Raw Material," gives typical solutions to selected water problems. **(F-38)**

Shock and vibration mounts for protection of textile and other equipment, ranging from heavy machinery to sensitive instruments, are listed and described in a new catalog published by The Barry Corp. Application principles for shock and vibration isolation, as well as deflection and isolation-efficiency curves, are also included. **(F-39)**

Steam traps are the subject of an illustrated booklet issued by Velan Engineer-

The Handsomest Team in the Stadium

Look what's come out of the north to dress up the 50-yard line. It's that old reliable the storm coat . . . all decked out with new color, style and good looks!

Why the transformation?

Coat manufacturers searching for ways to smarten up their product turned to rayon. In cooperation with Avisco textile experts they have devised cavalry twill and gabardine constructions that score high in all the characteristics demanded by quality outerwear.

Smooth as a completed pass, rugged as a center smash, these materials tailor faultlessly . . . their deep-lustrous colors contrast handsomely with rich mouton collars. They're tightly woven to withstand the coldest wind that ever blew through the bleachers. They take water repellent finishes perfectly.

These useful coats are being featured at your favorite shop right now. Investigate their good looks and reasonable price. And get set for comfort that's casually correct not only for November, but all winter long! American Viscose Corporation, 350 Fifth Avenue, New York 1, N. Y.

THE SWING TO RAYON for outer wear constructions is emphasized in the Avisco October advertisement, appearing in Time Magazine and the New Yorker. It is a part of a continuing program designed to inform opinion leaders of developments in rayon. Advertisements like this benefit not only Avisco but the entire textile industry by helping to accelerate consumer acceptance for new products.

Avisco®

AMERICAN VISCOSE CORPORATION

AMERICA'S LARGEST PRODUCER OF RAYON

OUT OUR WAY
OH, WHAT LUCK! IF YOU'D OF LEANED AGAINST ONE OF TH' OLD MACHINES, ONE HALF OF YOU WOULD OF WENT AROUND WITH TH' BELT AN' THE OTHER HALF AROUND IN TH' GEARS!
THAT KID WAS DUMB ENOUGH TO OVER-OIL HIS MACHINE, BUT QUICK-WITTED ENOUGH TO GET TH' BULL'S MIND OFF THAT!
THEY TEACH THAT NOW--PSYCHOLOGY! THEY OUGHTA TEACH ABOUT SOL-SPEEDI-DRI--AN' THERE'D BE NO SPILLS TO HAPPEN!
THE FAST TALKER
J.R.WILLIAMS

LABORATORY-TESTED
for consistent quality

SOL-SPEEDI-DRI

SLIPPERY FLOORS VAMOOSE when you use Sol-Speedi-Dri. It's America's largest-selling oil and grease absorbent. For good reason. Pound for pound, price for price, you can't buy a better product. Production controls and selective mining see to that...and laboratory tests safeguard its consistent quality. Adequate warehouse stocks in cities throughout the country — speedy delivery everywhere. Standardize on Sol-Speedi-Dri!

SPEEDI-DRI CORP., 213 W. Washington Sq., Philadelphia 5, Pa.

Warehouse stocks maintained in principal cities of the United States and Canada.

Inquirers in New York, New England and New Jersey should write to Speedi-Dri Corp. Elsewhere in U.S. to Waverly Petroleum Products Co., 1724 Chestnut St., Philadelphia 3, Pa.

FREE SAMPLE! Fill out the coupon and mail today for big, free sample.

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TW-10-50

ing Co. The booklet describes, with the aid of diagrams and pictures, the operating features and theory of the Velan steam trap. It also compares the features of other types of traps with the Velan heat-pressure trap. **(F-40)**

Stainless steel in the textile industry is described in a new brochure published by Crucible Steel Co. of America. The uses of stainless steel are described in all types of textile equipment, ranging from heddles to dyevats. It has an illustrated section on each of the major phases of textile operation. **(F-41)**

Reducing valves are featured in a bulletin published by Klipfel Mfg. Co. The bulletin describes various types of reducing valves, and it includes a reducing valve-selection chart to be used in specifying types of valves needed under specific conditions. **(F-42)**

Torque-arm speed reducers are featured in a catalog published by Dodge Mfg. Corp. The catalog illustrates different types of speed reducers which use torque arms to anchor the reducers and give easy adjustment. Technical data is given for the use of speed reducers. **(F-43)**

Industrial lubricants are discussed in a booklet published by Swan-Finch Oil Corp. The booklet gives the service-performance characteristics and the uses of various types of lubricants, varying from spindle oils to greases. **(F-44)**

Fans and blowers are described in a catalog published by Chelsea Fan & Blower Co. The catalog illustrates and describes all types of fans and blowers, and it gives the specifications and capacities of these fans and blowers. **(F-45)**

Air-recovery cells are discussed in a bulletin published by W. B. Connor Engineering Corp. The bulletin discusses principles of air recovery and describes in detail the Type C air-recovery equipment manufactured by Connor under the trade name of Dorex. **(F-46)**

An electric clutch and brake drive is described in a circular issued jointly by Hunt Machine Works, Inc., and Warner Electric Brake Mfg. Co. This new drive, known as the Hunt-Warner electric drive, was developed by the Hunt-Warner Research Corp. The circular describes the development of this drive and lists its technical features. **(F-47)**

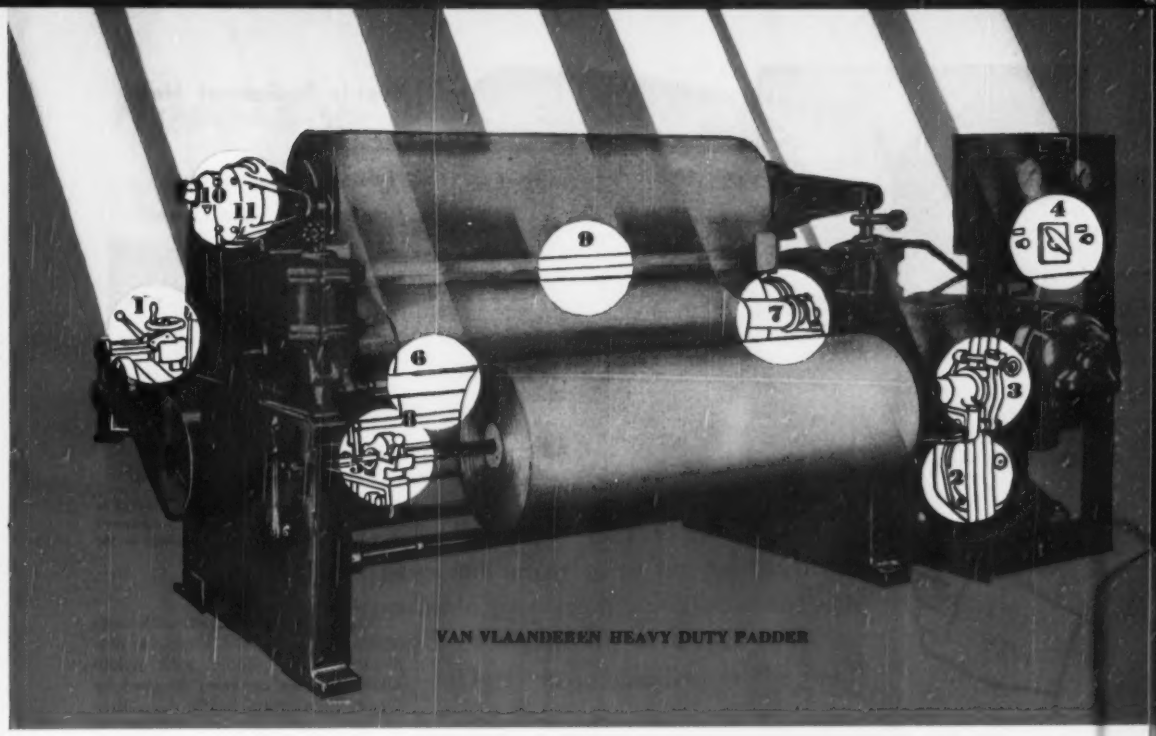
Portable elevators are featured in a bulletin released by Barrett-Cravens Co. The bulletin illustrates and describes a wide range of portable elevators in three standard models of 500-, 1,000-, and 2,000-lb. capacity. The bulletin also presents other Barrett elevators, including floor-to-floor elevators, and portable cranes. **(F-48)**

The use of aluminum paint by business and industry is discussed in an illustrated brochure published by the Aluminum Co. of America. The brochure shows applications of aluminum paints proven over the years, has an aluminum-paint-coverage table, and devotes several pages to questions and answers about aluminum paints. **(F-49)**

An individual card drive, known as the Westinghouse individual motor drive for cotton cards, is described in a folder published by Westinghouse Electric Corp. The folder describes the drive itself and features high-torque motors to be used with the drive. It also shows the push button controller, which is a major element of the unit. **(F-50)**

Answers to Textile Quiz on Page 174

1. b. [TW, Aug., '50, p. 101]
2. d. [TW, Aug., '50, p. 111]
3. c. [TW, Aug., '50, p. 114]
4. a. [TW, Aug., '50, p. 117]
5. c. [TW, Aug., '50, p. 121]
6. a. [TW, Aug., '50, p. 122]
7. c. [TW, Aug., '50, p. 129]
8. d. [TW, Aug., '50, p. 131]
9. b. [TW, Aug., '50, p. 142]
10. c. [TW, Aug., '50, p. 107]



VAN VLAANDEREN HEAVY DUTY PADDER

SPOTLIGHT ON SUPERIORITY

Focus your attention on these points of superiority. They will stand out in the light of your experience in processing modern fabrics.

1. It has an entirely new slip clutch take-up. Operates through dual friction plates with sensitive tension control and quick acting engage and disengage lever.

2. Variable speed drive, coupled to worm gear reducer, gives quiet, smooth operation and saves considerable floor space.

3. Malleable iron block brakes have tension indicator for easy reading and brake shoes are independently mounted for smoother action.

4. Pneumatic pressure system controls each cylinder separately, allowing operator to equalize nip pressure.

5. Both let-off and take-up bars have positive center bar locks.

6. All guide rolls are mounted on anti-friction bearings and made of stainless steel.

7. Two rubber covered expanders with sealed ends are provided.

8. The stainless steel pan can be easily and quickly lowered for cleaning.

9. Splash guards and nip guard assure safe, clean operating conditions.

10. Padder rolls are mounted on spherical roller bearings for smooth trouble-free service.

11. Both rolls are easily removed.

VAN VLAANDEREN MACHINE COMPANY

You are invited to see this machine.

370 Straight Street, Paterson 3, New Jersey

World's largest manufacturer of machines for processing modern fabrics

Huge Rotary Kiln in the Jacksonville, Florida, paper mill of the **NATIONAL CONTAINER CORPORATION**

they say:

"We use This Lubricant on big, hot, heavy bearings, too!"

Following is an extract from a lubrication report made by the plant engineer at the Jacksonville, Florida, Plant.

7' diameter by 300' long lime kiln, supported by five sets of trunnion rollers.

Temperature inside kiln at hot end is approximately 1800° F.

Kiln turns at approximately 1 RPM, trunnions turn at approximately 3 RPM on 7" journals in sleeve bearings lubricated by LUBRIPLATE No. 8.

Since changing to LUBRIPLATE No. 8 two years ago, wear on all bearings and journals has been reduced to a minimum, where formerly a definite problem of lubrication existed.

It is in these unusually severe applications where LUBRIPLATE Lubricants dramatically prove their outstanding qualities. Probably more seemingly impossible lubrication conditions have been satisfactorily met with LUBRIPLATE in the past twenty years than by any other group of lubricants.

In most instances, LUBRIPLATE Lubricants have been introduced to solve a difficult lubrication problem. Their performance is so remarkable that their use is extended throughout the plant. They definitely reduce friction and wear, prevent rust and corrosion and save power.

LUBRIPLATE Lubricants are available from the lightest fluids to the heaviest density greases . . . a product for every lubrication requirement. Let us send you case histories of their use and savings in your industry. Write today.

LUBRIPLATE DIVISION
Fiske Brothers Refining Company
Newark 5, N. J. Toledo 5, Ohio

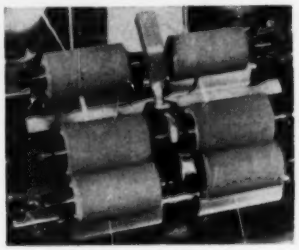
DEALERS EVERYWHERE—CONSULT YOUR CLASSIFIED TELEPHONE BOOK

LUBRIPLATE ***THE MODERN LUBRICANT***

Textile Equipment News

(Continued from page 156)

Nylon-Plastic Saddle Adopted by Saco-Lowell



***BACK-ROLL LUBRICATION** is eliminated in the Shaw long-draft system by Saco-Lowell through use of nylon-plastic bearings in the saddle.*

Working in conjunction with engineers of Saco-Lowell shops, a new Slixonice back saddle with nylon-plastic bearings has been designed by Dixon Lubricating Saddle Co., Bristol, R. I., and has been adopted as standard equipment on the Shaw long-draft spinning system by Saco-Lowell Shops.

The saddle substitutes long-lasting, low-friction, and easily replaceable nylon bearings for cast iron previously used. Back-roll lubrication is eliminated entirely.

Use of the nylon bearing results in a streamlined saddle and a consequent reduction in lint accumulation. The bearing is 1⅜ in. long; permits ample roll-setting adjustments; and does away with lint-collecting, laced oil wicks. Thus one cause of oil spots on yarn is eliminated.

To request further information, please use the card in the Reader-Service dept.; refer to T-24.

Vacuum-Extracting Box Gives Fabric Better Hand

A new individual vacuum-extracting machine equipped with the adjustable-slot vacuum extracting box and which is fitted with automatic ring-type slot seals has been introduced by Birch Bros., Inc., 32 Kent St., Somerville, Mass. The machine is built in all widths and is composed of a pair of side frames on which are mounted the tension rails, guide rolls, spiral roll for removing wrinkles, the vacuum extractor, draw rolls, and a folder. The new machine is fitted to handle cloth from roll to roll.

Here are 3 REASONS *why you should get* ALL THE FACTS *on*

MITIN

THE DURABLE MOTHPROOFER

Mothproofed with MITIN

MITIN with the Dye Mates the Public Buy

1 No other type of mothproofing on the market offers more dependable protection, such an amazingly longer life or such a carefully developed scientific background. MITIN* is outstanding in the field!

2 Geigy is set up to protect your good will with a regular periodic technical control program to reassure you that your runs are being properly mothproofed with MITIN.

3 Geigy is prepared to cooperate with your sales force in developing the full value of this modern sales stimulant.

The Geigy Specialist is ready to bring you all facts. Call him in today. He'll tell you how Geigy is set up to guide you through any of the simple MITIN application techniques (in your mill) and to back you with complete technical cooperation from there out. A call for a Geigy specialist entails no obligation. Why not write us today?

* U. S. Pat. No. 2,311,062

Geigy

Dyestuff Makers Since 1859

GEIGY COMPANY, *Inc.*

89-91 BARCLAY STREET, NEW YORK 8, NEW YORK

BRANCH OFFICES: Boston • Charlotte, N. C. • Chicago • Los Angeles • Philadelphia Portland, Ore. • Providence • Toronto

IN GREAT BRITAIN: The Geigy Co., Ltd., National Buildings, Parsonage, Manchester

Globe dyed yarns contribute to the sports dress by Sacony

GLOBE DYE WORKS CO.

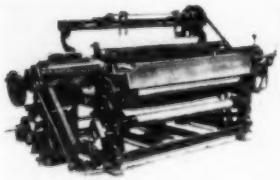
4500 WORTH STREET, PHILADELPHIA 24, PA.

The machine is driven by a motor through a variable-speed unit so that the speed of operation may be suited to the type of fabric being run. Usual speeds are up to 80 yd. per min. on rayons and blends, up to 100 yd. per min. on cottons, and from 35 to 45 yd. per min. on woolens and worsteds.

The extractor is said to give uniform extraction without damage to the fabrics. The vacuum-extraction system leaves the fabric with a better and loftier "hand" than when squeeze rolls are used, the manufacturer states. Excellent results are being obtained in current installations, and the amount of moisture left remaining in the fabric in most instances is said to be less than when squeeze rolls are used.

To request further information, please use the card in the Reader-Service dept.; refer to T-20.

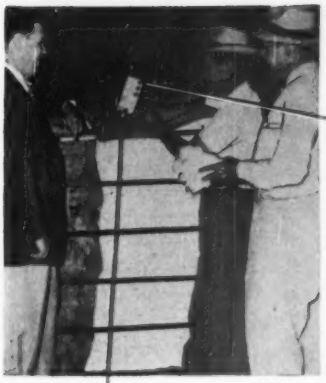
Shuttle-Changing Loom Has Large Filling Package



A 9-IN. BOBBIN carried in a shuttle 17 in. long is used in this new non-automatic loom. One bobbin will run continuously for 45 min. making 46-in. cloth.

A new, non-automatic, shuttle-changing rayon loom with a very large filling capacity has been developed by Butterworth & Dickinson, Ltd., Burnley, Lancashire, England. The new loom is said to be the outcome of considerable research into the question of the maximum shuttle capacity that can be applied in rayon weaving. It is claimed to be suitable for the weaving of all standard lines of rayon goods and will produce nearly all types of goods with up to eight harnesses.

The shuttles used in the loom are about 17¼ in. long by 2⅛ in. wide by 1⅜ in. deep. The bobbins used are 9 in. long by 1¼ in. wound diameter. The loom is fitted with a two-shuttle drop-box motion at one side. A single bobbin of 140-den. filling will run continuously for 45 min. making cloth 46 in. wide at the reed space. With two shuttles working alternately every two picks and with the loom running at 140 picks per min., it will operate without filling replenishment for 1¾



what:

The finest cotton produced — Mississippi Certified! The Certification tag (and stubs which accompany every sample drawn) tells you the variety — such famous cottons as Bobshaw 1A, Coker 100 Wilt, Delfos 9169, Deltapine 15, Stoneville 2B, and Empire.

when:

The tag tells you the year the bale was produced. Every bale is grown from foundation, registered or certified seed not more than two years removed from the breeder's fields.

where:

This Certification tag also gives the county in which each bale was grown. Mississippi Certified lint is grown on one-variety farms, ginned on one-variety gins — all fields officially inspected and approved by qualified agronomists.

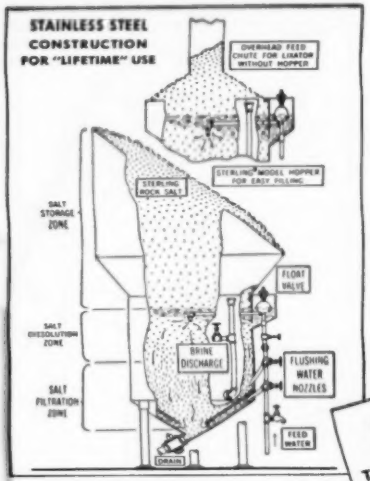
whom:

And finally—the tag lists the name and address of the grower, giving you a complete history of the bale. The Mississippi Certified lint tag is your assurance of a better spinning cotton identified as to variety and area of growth. A list of producers will be gladly supplied on request . . . Write for it.

MISSISSIPPI SEED IMPROVEMENT ASSOCIATION (A.A.L.) • Dept. TW-1 STATE COLLEGE, MISSISSIPPI

SALT! WHY HAUL IT?

MEASURE IT? STIR IT?



Just Turn It On!

STERLING ROCK SALT
BRINE DELIVERED BY PIPE TO EVERY POINT IN YOUR PLANT
- DYEING MACHINES
- DYEING VATS
- ZEOLITE WATER SOFTENERS

HOW LIXATOR WORKS

In the dissolution zone – flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone** – through use of the **self-filtration** principle **originated by International,** the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

WHAT THE LIXATOR PROVIDES

- ✓ **Chemical and bacterial purity to meet the most exacting standards for brine.**
- ✓ **Unvarying salt content of 2.65 pounds per gallon of brine.**
- ✓ **Crystal-clear brine.**
- ✓ **Continuous supply of brine.**
- ✓ **Automatic salt and water feed to Lixator.**
- ✓ **Inexpensive, rapid distribution of brine to points of use by pump and piping.**

Savings up to 20% and often more in the cost and handling of salt have been reported by many Lixate users. Why not investigate?

• You can eliminate shoveling, hauling, and laborious hand stirring of salt and water, and frequent testing of the brine strength — with International's Lixate Process for Making Brine. Stops waste through spilling. Saves time and labor. Assures accurate salt measurement.

• The Lixator *automatically* produces 100% saturated, free flowing, crystal-clear brine — which may be piped to as many points in your plant as you desire — any distance away — by either gravity or pump. YOU SIMPLY TURN A VALVE for self-filtered, LIXATE Brine that meets the most exacting chemical and bacterial standards.

An INTERNATIONAL Exclusive

The **LIXATE*** *Process*

FOR MAKING BRINE

*REG. U. S. PAT. OFF.

INTERNATIONAL SALT COMPANY, INC., Scranton, Pa.

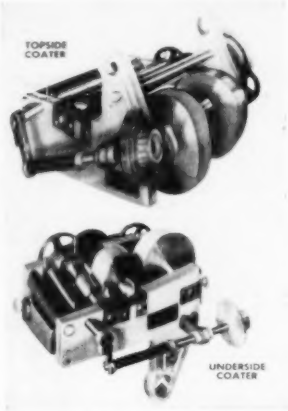
hr. Of course, two full bobbins must be started together, and the length of yarn in each bobbin must be approximately the same length.

The number of looms which can be supervised by one weaver, it is claimed, can be as high as 48, depending on the floor area covered. Warp and filling breakages on the new looms are said to be no more frequent than with ordinary normal-package looms or automatic looms. Installation and maintenance costs are said to be considerably less than with automatic looms.

A special "double-swell" checking device is used on the loom in conjunction with the normal type of fast-reed protector motion. Additional checking action is exerted from control arms which act as an additional brake on the shuttle as it enters the box. Swell pressure on the shuttle is released just prior to picking, and a lighter and more effective picking action is possible.

To request further information, please use the card in the Reader-Service dept.; refer to T-13.

Attachment Applies Adhesive to Web Material



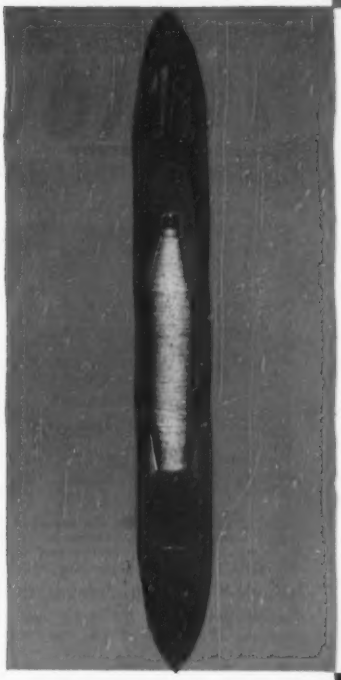
***A REMOVABLE RESERVOIR** in coating rollers on this new coating attachment permit thorough cleaning.*

A multi-purpose coating attachment for underside and top coating of webs is a new development of Potdevin Machine Co., 1285 38th St., Brooklyn, N. Y. Called the "BTC," the coating attachment is fitted with special brackets permitting mounting in a position for top, side, or underside.

The "BTC" is particularly suited

KOVO

TEXTILES CHEAPER AND BETTER



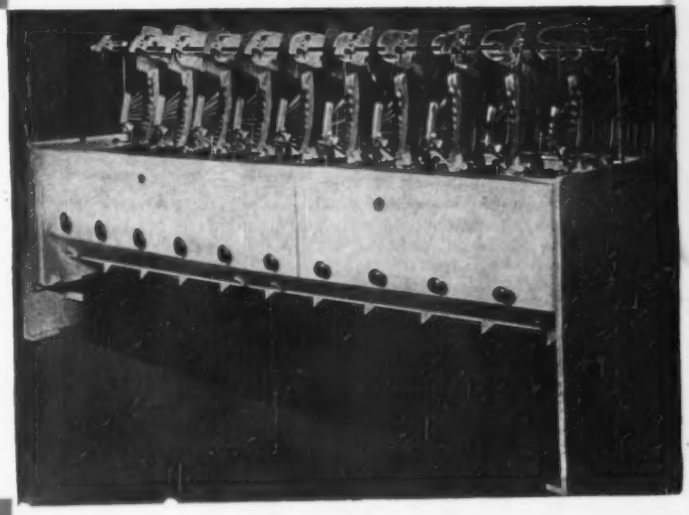
Automatic Weft Winder ZET

SPECIAL FEATURES:

FRICTIONLESS DISTRIBUTING ROLLER
NO RECIPROCATING MOTIONS
PIRN CHANGE IN LESS THAN 1.5 SEC.
CONSTANT YARN TENSION

Modern Textile Machines make possible the manufacture of first quality goods at less expense.

Winding costs cut down by the use of the new automatic weft winder which ensures 30% productivity.



Automatic Weft Winder ZET offers:

1. **higher productivity**
2. **increased efficiency**
3. **easier operation**
4. **simple maintenance**
5. **improved quality of pirns**

Step up your production by installing new automatic machines! Our experts will be pleased to answer your questions.

For particulars write to

KOVO

PRAHA • CZECHOSLOVAKIA

18-U-8-KB

New . . . streamlined . . . oilless . . . the Slixonice back saddle with a durable plastic bearing was developed by Dixon in cooperation with engineers of the Saco-Lowell Shops. It is now used as standard equipment on the Shaw long draft spinning system.

Back roll lubrication and the danger of oil-soaked yarn are eliminated entirely because instead of cast iron, the new Slixonice saddle is equipped with long-lasting, low-friction and easily replaceable nylon bearings. This results in a streamlined saddle with considerable reduction in lint accumulation when in use. It permits accurate control of roll speed and weighting. The 1⅜" long bearing allows ample roll setting adjustments.

Since this Slixonice saddle is an integral part of the Shaw unit, this combined designing and engineering effort resulted in an improved saddle — precision designed to "do the job" — to function perfectly under all weighting and speed requirements of the long draft system. Present Shaw frames with cast iron saddles can easily be equipped with the new Slixonice saddle for economical, uninterrupted, dependable performance. Your Dixon representative has full details.

Old saddle types on other spinning frames can also profitably be replaced by Slixonice lock-in back saddles and Lubronze front bearing inserts. See your Dixon representative for more information on the complete Dixon line of saddles and saddle assemblies.

Covering the Carolinas and Virginia
J. W. Davis, Mfg'rs Agent, Box 745, Columbus, Georgia
Covering Georgia, Alabama, Mississippi, Louisiana and Tennessee
W. R. Potter, Sales Manager, Dixon Lubricating Saddle Co., Bristol, R. I.
Covering New England

DIXON
LUBRICATING SADDLE CO.
Established 1876 Bristol, Rhode Island

for applying adhesives in widths up to 21 in. to webs running at any speed. It can be either self-powered or powered by other equipment. The machine is equipped with a control for applying adhesives in any required amount.

To request further information, please use the card in the Reader-Service dept.; refer to T-22.

Instrument Measures Fabric Radiant-Heat Loss

THE CALORIC-VISITHERM and porophorometer, a new instrument developed by James H. Rand, III, Cleveland scientist, and Deering, Milliken & Co., for measuring radiant-heat loss of fabrics, is understood to be available generally to the textile industry from Deering, Milliken & Co., New York, N. Y. The new instrument is being demonstrated above by James H. Rand, III, center, to Isaac Liberman, president of Arnold Constable (left) as George M. Jolly, merchandise manager of the Milium Div. of Deering, Milliken & Co. looks on. The instrument was used during the development of the Milium resinated metal-sprayed finish for fabrics which reflects radiant heat back to the body without impairing the porosity of fabric.

To request further information, please use the card in the Reader-Service dept.: refer to T-14.

Auxiliary Lens Permits Close-Ups of Fabric

A new 10-diopter slip-on auxiliary lens for making top quality close-up photographs of fibers, fabrics, weaves, and print details, is now available from the Tenplus Co., 43A Garden Drive, Roselle, N. J. The auxiliary lens can be fitted to any camera which accepts a Series 5 or 6 adapter ring.

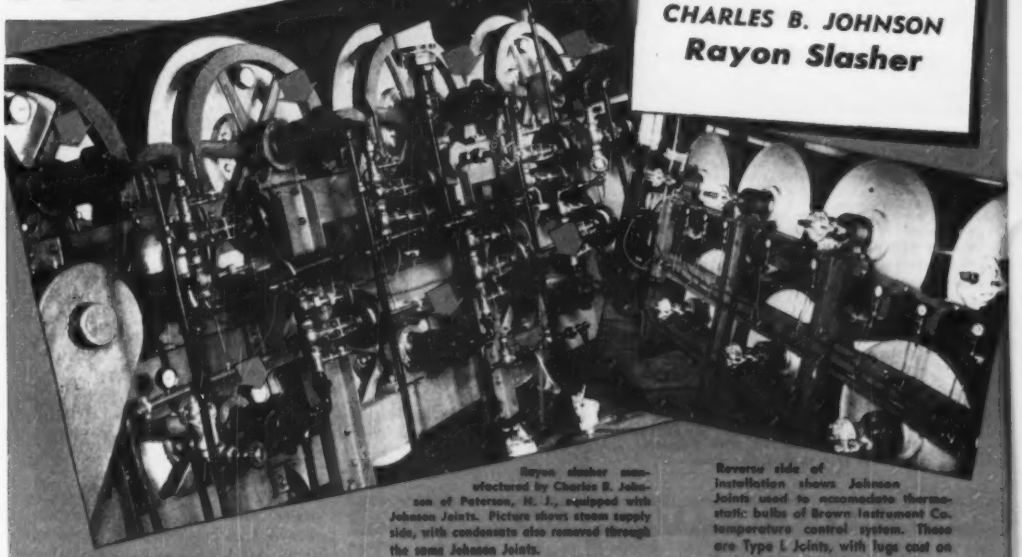
The new lens permits working closer than 4 in. from camera to subject matter. Price of the supplementary lens is $8 for either series size.

To request further information, please use the card in the Reader-Service dept., refer to T-2.

JOHNSON Rotary Pressure JOINTS

the final touch to fine machinery

On . . .
CHARLES B. JOHNSON Rayon Slasher



Rayon slasher manufactured by Charles B. Johnson of Paterson, N. J., equipped with Johnson Joints. Picture shows steam supply side, with condensate also removed through the same Johnson Joints.

Reverse side of installation shows Johnson Joints used to accomodate thermostatic bulbs of Brown Instrument Co. temperature control system. These are Type L Joints, with lugs cast on body for simple rod support.

It sounds like a family affair—Johnson Joints on a Charles B. Johnson rayon slasher. Actually it's only the same relationship that exists between Johnson Joints and so many other textile machinery manufacturers, who almost unanimously have adopted them as standard equipment.

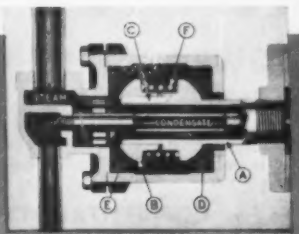
Such acceptance emphasizes the fact that any slasher, dry can or sanforizer is better machinery with Johnson Rotary Pressure Joints. They have no packing of any kind; require no lubrication; adjust for varying pressures automatically; even have provision for misalignment built right in.

If you haven't switched over to Johnson Joints, remember the savings in maintenance alone can quickly pay the cost.

New catalog shows styles and sizes for every need; write for your copy today.

Here's how it works

Nipple (A) is connected to roll. Collar (B) is keyed to nipple at (C), but fits loosely so pressure can fill entire housing and serve as sealing force. Seal ring (D) and bearing ring (E) are of special carbon-graphite, eliminate all packing or need for lubrication. Spring (F) is for initial seating only. Note room for lateral movement of rotating assembly, spherical seating for angular movement.

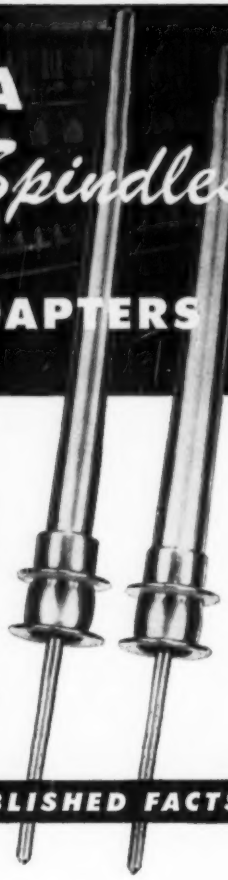


JC Products of The Johnson Corporation

837 Wood Street, Three Rivers, Michigan

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

NEARLY A MILLION *Spindles* EQUIPPED WITH REGNERY ADAPTERS



Because Your present spindles can be easily converted for sleeve type spinning.

Because The tried and proven conventional type of standard base, bolster and spindle with a wonderful record in many mills of 20 years or more of low cost operation and maintenance has a larger package and improved spinning with the Regnery Adapter.

Because Conventional spindles with Regnery Adapters balance out any other paper tube spinning in the mill.

Because A standard spinning bobbin can be used throughout the mill when filling spindles are converted with Regnery Adapters for use on a rewind operation.

THESE ARE THE ESTABLISHED FACTS!

1. More yarn per bobbin.
2. A smoother spinning unit.
3. Less ends down with better quality work.
4. Less waste in spooling operations.
5. A more uniform traverse.
6. A trouble-free, permanently "locked in" spindle and adapter.
7. A saving in doffing and spooling costs.
8. Lower bolster replacement costs.

LOWER YOUR PRODUCTION COSTS with REGNERY *ALUMINUM SPINDLE ADAPTERS*

Modern TOP drive adapters for the tapered or parallel bobbins can be installed in your mill quickly and easily to your specifications.

CONCENTRICITY IS OUR BUSINESS
Write for Descriptive Folder

F. L. REGNERY CORP.
Spindle Adapters · Production · Engineering
613 WEST 16TH STREET • CHICAGO 16, ILLINOIS

Questions AND Answers

Tension Does Not Distort Loop-Selvage Fabrics

Technical Editor:

What type of fabric is usually woven with a loop selvage?

How do you weave that kind of selvage? (9398)

Industrial fabrics that must be calendered, coated, or processed under tension and need a selvage that will allow the warp and filling yarns to adjust themselves and not split or rip when the pull down is applied are often woven with a loop selvage.

Also, heavy fabrics such as belt ducks and chafer fabrics often have loop selvages. These goods, when they are woven with ordinary selvages, have a tendency to become baggy because the selvage ends are so compactly woven that they will not stretch in weaving. A baggy condition, of course, is a serious drawback in calendering, coating, etc.

A standard loop selvage has loops of filling yarn extending about 1/16 in. from the last warp end on each side of the cloth.

When tension is applied during processing, the warp ends may spread and adjust themselves without breaking the picks, as would often happen in a fabric with a tightly woven selvage. Also, the loops in the selvage tend to slip and even up the load on the individual warp ends enough to keep a few of them from taking the whole load and rupturing.

To produce the loops in the selvage, it is necessary to have a piece of wire running through the outside dent of the reed on each side of the cloth. The filling is laced over the wire as though the wire were the outside warp end. The wire is held stationary on the loom, and the filling loops are pulled off the end of it as the cloth is wound up at the front of the loom. The filling loops, free of the wire, form the loop selvage.

The wire should be drawn through the harness so that the shuttle will pass under the wire on the end of

Güsken LOOMS

FOR OVER 75 YEARS

"OFTEN COPIED BUT NEVER EQUALLED"

High capacity looms for woollen cloths, upholstery and decorative fabrics

Double shuttle double Velvet—and Plush weaving looms

Double shuttle double Wilton—Carpet looms

Warping machines for any special requirements

JEAN GÜSKEN GMBH **DULKEN** Rhld.

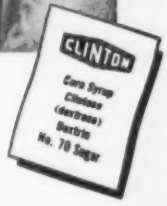
Member of COMBITEX Combine of Textile Machinery Manufacturers

You'll find Clinton Quality Starches Tops for Every textile purpose!

● Clinton Textile Starches are scientifically manufactured and unvarying uniformity assured. Clinton Starches give your warp the necessary body, strength and pliability that means quality weaving every time. Reduce loom stoppage and increase production with Clinton Textile Starches. For years Clinton has been a leader in the production of starches for all textile purposes.

CLINTON

Remember that you can always depend upon Clinton's uniform quality and uniform performance.

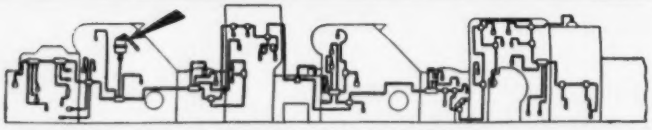


Clinton Foods Inc.

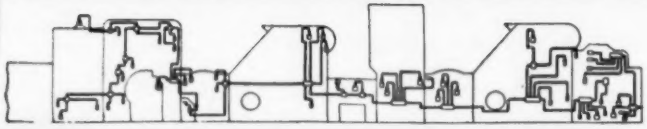
CLINTON, IOWA

LEADING MANUFACTURERS WHO BUILD IN THE BIJUR SYSTEM

this is how Bijur



cuts maintenance



time on the picker

By creating one lubrication source (arrow) for 100 points of lubrication, the Bijur system makes it possible to oil all bearings at once *while the picker is operating.* Operating the lubricator force-feeds a measured amount of filtered oil through a single-line distribution system, branched to reach all 100 points. A positive method of Meter-Unit control provides each bearing with the correct oil film *automatically*.

Central Oiling Means Savings

Compare the time saved by Bijur-lubricating 100 bearings with the time wasted by hand-oiling each bearing individually. Contrast the reduced wear of Bijur-oiled bearings against the break-downs resulting from "starved" or "forgotten" bearings. And when you consider that down-time for oiling is converted into more time for production, you can see how the Bijur system pays for itself in a short time.

Built-In Lubrication

When you specify Bijur, you are assured of built-in bearing protection. This central lubricating system has been designed into the products of the leading manufacturers of textile machinery, and has proved its value among top textile mills (names on request). For further details, write for Bulletin 6A, "Metered Lubrication of Textile Machinery."

394

BIJUR
LUBRICATING CORPORATION
LONG ISLAND CITY 1, NEW YORK

Questions and Answers

(Continued)

the loom from which the shuttle is entering the shed. Also, the last end in the warp on each side of the fabric should be drawn in opposite harnesses from the wire.

From the fell of the cloth the wire should run 4 or 5 in. into the fabric.

The life of the wire depends on the weight of the fabric being woven and, consequently, the speed of the loom. Longer life comes from a heavier fabric and slower speeds. The wire tends to crystallize where it extends across the race plate and comes in contact with the shuttle. A length of 3 to 5 in. of wire should be pulled off each eight hours when a heavy fabric is being woven; more often when a lightweight fabric is woven.

Piano wire of 0.025 to 0.045 gage is satisfactory for use. The gage will vary in this range, depending on the size of loop desired and the weight of the cloth. Piano wire is much more economical to use than softer wire because it resists crystallization better and will last longer.

One thing that must be watched is the selvage wire breaking off in the cloth. If the weaver neglects to break off the crystallized length of wire across the race plate, the wire will soon break off itself. Of course, this broken piece will remain in the loops and be wound on the roll with the cloth. When the cloth is handled in later processes, the wire may injure someone or something.

Cloth inspectors should be put on the alert to watch for stray pieces of wire.

Another danger in the weaver not breaking off the wire at proper intervals is that when the wire breaks itself the break may occur so far behind the race plate that selvage loops are not formed. Imperfect cloth would be woven until the condition was noticed.

Sharpening Tenter Clips Not Always Satisfactory

Technical Editor:

Is it possible to sharpen the clips on a tenter-frame chain? Is there a special tool available for that purpose? (9400)

It is possible to sharpen the clips on a tenter-clip frame after they have become dull. Normally, it is done with an ordinary file, but the results are not always satisfactory. If the operator is not an expert, he is likely to take too much off at the wrong bevel, and thus ruin the chain, particularly if he is trying to rework a chain or a clip while it is still in the machine.

For a number of years, tenter-frame

. . . gives Kidde Dry Chemical Fire Extinguisher a 44% margin of safety!

CHECK YOUR FIRE EXTINGUISHER DAY
Wednesday October 11

The Factory Mutual Laboratories require that a 20 pound dry chemical fire extinguisher effectively cover 25 square feet of burning area . . . but the Kidde 20 pounder blanketed 36 square feet . . . gave 44% extra coverage, extra safety!

Insurance rating bureaus favor dry chemical extinguishers for textile fires. Kidde fire extinguishers of this type are just as quick and efficient for textile blazes as they are for smashing flames in flammable liquids or live electrical equipment. Kidde Trigger-Finger Control lets you just pick up extinguisher, point the horn and pull the trigger. Kidde streamlined diffuser horn gives you improved, cloud-like discharge pattern, greater coverage and a heat-insulating blanket to guard the operator. The dry chemical absorbs heat, smothers flames. When these Kidde units go on, fires go out.

Kidde Dry Chemical Fire Extinguishers in 20 and 30 pound units, are built to last, easy to use, simple to recharge, and give a big margin of safety. Use the right kind of extinguisher to guard *your* plant from fire—use Kidde.

FASTER SURER ACTION!

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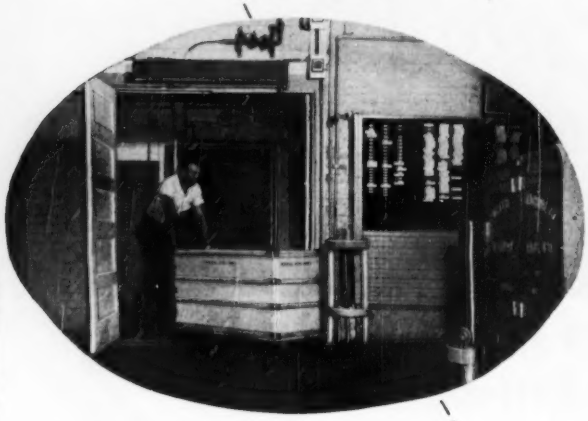
Walter Kidde & Company, 1091 Main St., Belleville 9, N. J.
In Canada: Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

eliminate
time-consuming
money-wasting
STOPS



...with Stanley Magic Doors

Stopping to open and close doors is old-fashioned . . . and inefficient. That is why more and more textile mills are installing Stanley Magic Doors.

Stanley Magic Doors are actuated by the photoelectric "eye". As a worker approaches, doors swing open. They promptly close — without banging — after he has passed through.

Production is speeded — because the product moves faster from one plant area to another. Maintenance cost is reduced by ending the practice of "bumping" open doors — a source of damage to trucks and doors. Heating and air-conditioning expense is lowered because proper indoor temperatures and atmospheric control are more easily maintained when doors close rapidly.

Stanley Magic Doors are adaptable to any door installation — either swing-type, sliding, or a combination of both. Discover how Stanley Magic Door controls can save *you* time and money — by mailing this coupon now.

STANLEY
Reg. U.S. Pat. Off.
The Magic Door

The Stanley Works, Magic Door Division, 107 Lake St., New Britain, Conn.

Gentlemen: Please ( ) Send full information on Stanley Magic Doors ( ) Have your representative call on us.

Name _____
Firm Name _____
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clips have been fitted with inserts on a chain after the old one have become worn. However, most finishers are unwilling to take the responsibility of reworking a chain; they prefer to send it back to the manufacturer for overhauling when the clips are worn.

Usually, after a chain has been run so long that the blade is too dull to grip the cloth properly, pins and other parts of the clip need to be replaced also. This work can also be done far more satisfactorily by the manufacturer.

Hypochlorite Process Bleaches Fast and Safely

Technical Editor:

We read with interest the article on a continuous hypochlorite bleaching process written by L. P. Seyb and J. L. Foster in the Dec. 1949 issue of TEXTILE WORLD.

We would like to have more detailed information on the following points:

1. What is the concentration and liquor ratio of the sodium-hypochlorite solution before and after the caustic-soda treatment?

2. What is the concentration and liquor ratio of the caustic-soda solution in the kier boiling?

3. Are any other chemicals, such as acid or alkali, required in the sodium-hypochlorite solution?

4. Will the fiber of the cloth be tendered or weakened by the residual sodium hypochlorite during the high-pressure kier boil? (9399)

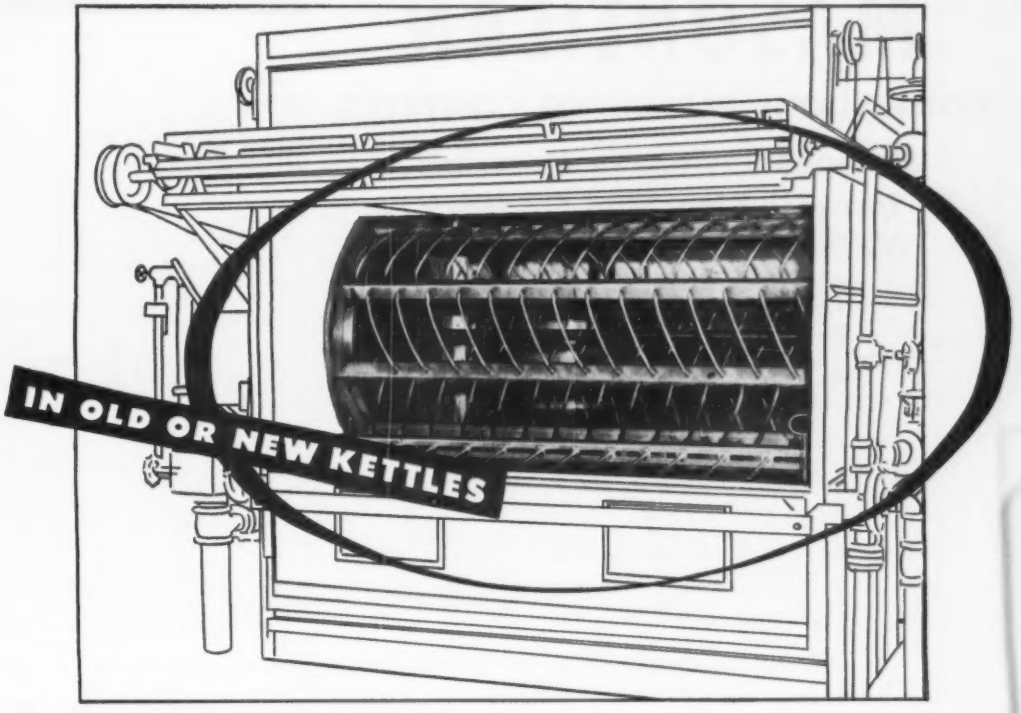
Here is Mr. Foster's answer:

The following information is taken from data obtained on a commercial-scale trial run that yielded very satisfactory results. In this run, four different weights of goods were sewed together and processed as a single piece. The total yardage was 17,044; the average weight was 2.45 yd. per lb. The lowest weight was 3.4 yd. per lb., and the highest was 1.5 yd. per lb.

1. At the start of the run, the chemic saturator was filled with 735 gal. of sodium hypochlorite containing 3.8 g. per liter available chlorine at pH 9.1. This chlorine concentration was maintained between 3 and 4 g/l during passage of the goods by addition of a 10.5% sodium-hypochlorite stock solution. Likewise, the pH was maintained between 8.5 and 9.5 by addition of 10% sulphuric acid at the required rate.

The goods leaving the saturator were squeezed to retain about 100% liquor based on the weight of the goods. The actual hypochlorite consumption in the first chemic treatment amounted to about 40 gal. of the 10.5% solution.

The chemic treatment following



for better dyeing *Specify* **New Hunter Herringbone Hump Reel***

The new Hunter Stainless Steel Herringbone Hump Reel offers production advantages and economies for old or new Hunter piece dye kettles as well as for kettles of other manufacture. This revolutionary new design eliminates the chance of streaks and kettle cracks caused by goods running in one fold — it eliminates channeling — it eliminates slip and chafe marks — it eliminates re-dyes! The unique herringbone design effectively opens all types of cloth which makes it ideal for all woolens and worsteds from 7 oz. knit goods to 32 oz. Meltons.

*PATENT PENDING

Call in a HUNTER Field Engineer...

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S. Alex Dalghren, Ivyland, Bucks County, Pa.
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E. G. Paules, 1762 West Vernon Avenue, Los Angeles, Calif.
Rudel Machinery Company, Ltd., Canada
Carl Endlein, 1734 Candler Building, Atlanta 3, Georgia

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JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847.

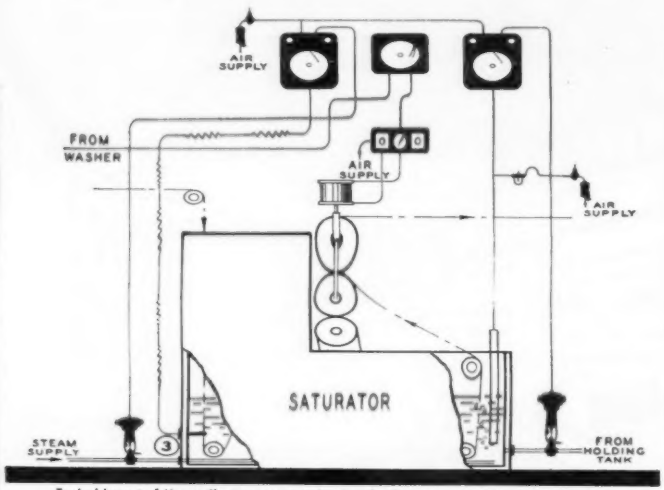
MASONEILAN

CONTINUOUS BLEACHING CONTROLS

Provide Savings in Materials...

Increase Bleaching Efficiency...

Maintain Product Uniformity



Typical layout of Masoneilan temperature, level and roll pressure controls at the saturator

Masoneilan Bleaching Controls insure definite savings in steam, caustic soda and peroxide solutions, and uniformity of bleached cloth.

Masoneilan bleaching equipment is available for the control of all stages of bleaching, washer, saturator, J-Box. All instruments may be installed on a central panel at a convenient location for the operator. Results show improved bleaching efficiency, product uniformity and economical operation.

It will pay you to investigate Masoneilan Bleaching Controls for your mill. Find for yourself how they can provide savings in materials and cut bleaching costs.

Write for Information

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Questions and Answers

(Continued)

the kier boil is similar to standard bleachery procedure except for the recommended pH of 8 to 10.

2. The kier charge consisted of 1,600 gal. of 4.73% caustic solution containing, in addition, 5 lb. of tetrasodium pyrophosphate and 14 qt. of a mixture of pine oil and sulphonated castor oil. The water in the incoming fabric reduced the caustic concentration to 3%, the recommended figure.

3. The chemic solution used prior to kier boiling must contain 0.05 to 0.1% of a wetting agent to insure adequate penetration of the gray goods. As indicated above, addition of small amounts of a mineral acid is necessary to control the pH value at around 9. The amount will vary, of course, depending on the alkalinity of the hypochlorite feed.

No wetting agent is necessary in the chemic treatment following the kier boil; nor is the pH control so critical. It should, however, be kept between 8 and 10, again by the use of small amounts of mineral acid.

4. During the 30-min. binning time between the first chemic treatment and the kier boil, most of the hypochlorite decomposes by reaction with impurities in the gray goods. Any ordinary washing procedure removes all but a trace of active chlorine, and the small amount left has been shown to have no harmful effect on the kier-boiled fabric.

Round Table

(*Continued from page* 174)

tons will not card alike. If a card produces a web with fairly parallel fibers, little trouble may be met with running sliver direct to slubbers for coarse numbers. However, if the web lacks this parallel order of fibers, a single process of drawing is advisable. A high doffer speed with a sliver weighing 50 grains or less per yard will often improve the parallel arrangement of fibers in webs. Good cotton classing, careful bale selection, and uniform blending will aid greatly in improved running and the quality of the product.

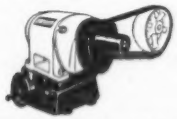
If end breakage in spinning increases beyond a reasonable point on direct-card-sliver processing, it is necessary to provide additional spare hands. This is another added expense to be deducted from gross savings. Increased clearer, stick, and reworkable waste will also reduce assumed savings.

The performance of the finished

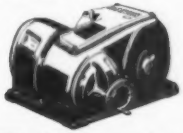
"Non-stop Bascom, they call him, since the boss put him on that frame with REEVES Vari-Spin Drive"

THE 3 BASIC REEVES UNITS

VARIABLE SPEED TRANSMISSION for providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.



VARI-SPEED MOTOR PULLEY provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 10 hp.



MOTODRIVE combines motor, speed varying mechanism and reduction gears in a single unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 20 hp. (Also available in fractional hp sizes with speed variations of 10:1.)

● The new REEVES Vari-Spin Drive absolutely eliminates the down-time and trouble ordinarily necessitated by changing belts and pulleys to change cylinder speeds.

With REEVES Vari-Speed, cylinder speeds are quickly and easily changed merely by turning a speed shifting screw—without stopping the frame or interrupting production. And, *always*, the speed set is accurately and positively maintained.

Vari-Spin Drive is infinitely adjustable within its range of 2.75:1. Fine gradations in speed compensate for excessive tension and varying conditions in humidity and temperature; and for changes in yarn size. Because the drive is *truly positive*, a return to within a fraction of an rpm of any previous cylinder setting is assured.

Send for *free* bulletin giving full details on the REEVES Vari-Spin Drive—see how easy it is to obtain production increase and top efficiency with REEVES Vari-Spin. Write for Bulletin No. W52a-3N.

NOTE: See your REEVES representative at the Southern Textile Exposition, Greenville, S. C., October 2-7: SPACE No. 247-C.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Speed Control Engineering

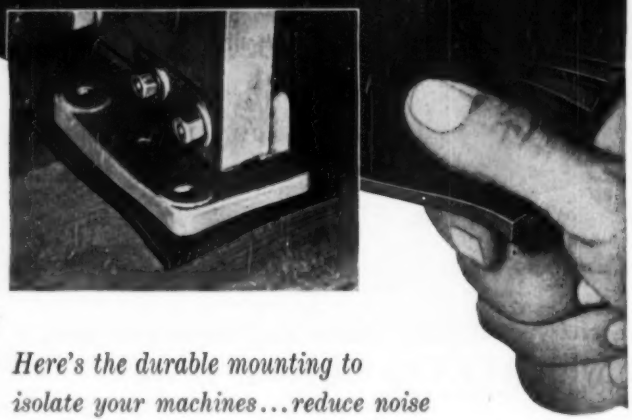
accurate · variable **REEVES** *Speed Control*

For more information, write direct or use Reader Service post card.

This Improved MILL-TESTED

ISOMODE TEXTILE PAD

Absorbs Vibration... Saves Money



Here's the durable mounting to isolate your machines... reduce noise ...anchor equipment without bolting ...cut maintenance costs

Actual mill installation and tests by several large Southern producers of textiles prove that these single-ribbed Isomode* Pads are not only one of the most economical mountings, but also one of the best. They do a superior job of isolating vibration. They work under present legs of equipment – on any type of flooring.

By their action, Isomode Pads help increase loom life, reduce shut-down time, and thereby step-up production. Due to the unique ribbed construction, these pads act as a spring which absorbs the forces and vibrations created by the equipment which are normally transmitted to the floor. You'll find that this reduces energy-sapping noise, as well as strains on machines and floor. Moreover, this vibration control eliminates need for bolting in most cases. Your machines "float" on Isomode Pads, yet they stay put. As a result, effect of uneven floors on machinery is corrected and undue wear minimized.

Isomode Pads are easily installed. Merely cut to size required by legs of equipment, allowing for ⅛ or ¼-inch overlap to securely bed down the leg. Made of Du Pont Neoprene, the pads resist aging, oil, heat, moisture.

See what a big improvement Isomode Textile Pads can work in your own operations – and at what surprisingly low cost. Write for full details.

*Trade Mark Reg. U.S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1084 State Street, New Haven 11, Conn.

Distributed by: Mathews Equipment Co., Providence, R. I.
R. B. Dorman, Atlanta, Ga. O. D. Landis, Charlotte, N. C.

yarn on the loom, knitting, or braiding machine may be the deciding factor in this process elimination. There are too many angles involved to be considered here. One truth is vital: it is the net savings over the whole range of processes that really counts and not the apparent savings on one process. *(R-643, William Shaw, Providence, R. I.)*

Editors Note—Consideration of drawing-process elimination can be resolved into the following elements:

Required quality of finished product.

Processing performance.

Increased waste loss.

Loss of efficiency.

Effect on size of job assignments.

Cost of additional spare hands and cleaners required.

Effect on employee morale due to poor running work, higher end breakage, and increased lint and fly.

The total net savings equals the gross savings in labor, power, and maintenance on drawing frames minus losses incurred on other processes.

Have You Noted Color Change in Combing?

There are various methods of making colored mixtures for fine quality merino mixture worsteds. It is customary, however, in order to get the most efficient blending to follow one of these three methods:

1. Strong gilling, recombing, and blending in mixing gill boxes.
2. Gilling and recombing and blending in the drawing.
3. Gilling and blending, then recombing and finishing in the usual way.

The last method is usually considered by experienced mill men to give the best results from the point of view of producing a homogeneous mixture of a shade.

Improved product from this method is attributed to the increased doublings obtained by feeding 72 ends to the Noble comb. The pin action of the circles also helps to break down any groupings of fiber of any one particular shade that might lead to streakiness in the yarn or fabric.

The Noble comb, however, is known to have a selective action with certain colors. If the blending is done to a color standard prior to recombing, the blended shade after recombing may be "off-shade". Browns, dark greens, and blacks are among the shades which tend to make more neils than white or some of the lighter-colored elements of a blend.

This selective action of the Noble comb is an interesting and practical point and well worth attention. It would be interesting to find out if other T.W. readers have noticed similar action. *(R-644)*

only

ECLIPSE BOBBIN HOLDERS

OFFER THESE

"BIG TEN" Features

1. Completely replaces wooden skewers.
2. Stainless steel ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
6. Easier creeling; less physical effort and fewer motions required.
7. Improved brake attachment prevents over-run and backlash.
8. Now cadmium plated and stainless steel balls more rust resistant.
9. Time-tested product—holders in operation for over ten years.
10. Easy to install; practically no upkeep.

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Textile men everywhere are concerned with efficiency and economy of operation, and that's just what these *exclusive* Eclipse features assure you! If you want to modernize your present plant equipment profitably, you can't go wrong with the finest—Eclipse Bobbin Holders. Write us for further details.

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Want a Slice?

Savannah has a ripe crop of industrial melons waiting to be cut . . . outstanding advantages made to order for the textile industry. Abundant supply of soft water, unbelievably cheap . . . willing labor with a high production record . . . all forms of competitive transportation . . . close proximity to markets and material sources . . . reasonable taxes and a cooperative community . . . all this in a virgin territory where you can establish equitable work loads and wage rates without precedent or competition.

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▶ **To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.**

Engineering

Electric Hand Tachometer

The new Metron type-25D hand tachometer with improved speed-measuring ranges has been announced by Metron Instrument Co., 432 Lincoln St., Denver 9, Col. The new ranges are listed as 100 to 1,000, 200 to 2,000, and 50 to 5,000 rpm. and fpm.; as well as 10 to 100, 20 to 200, and 50 to 500 fpm. The new ranges are said to be ideally suited (without range-extending adapters) for speeds encountered in motor and generator testing, process control, and maintenance work. Range-extending adapters are available, however, to measure speeds as low as 20 rpm. and as high as 50,000 rpm. (U-1)

Electric Water-Flow Contact

A new control device which responds to a flow of cold water to open or close an electrical contact has been announced by the General Electric Control Division, Schenectady 5, N. Y. The device is known as a flow interlock and measures approximately 2¼x3x7 in. In operation, it closes a contact when a flow of water exceeds a present amount and opens contact when flow falls below the preset amount. According to GE engineers, the interlock can be used as a safety device in many other applications where it is desirable to arrange an electrical contact with a flow of water. (U-2)

Fan for Industrial Cooling

A high-efficiency axial fan employing aerodynamic-design principles and aircraft-production techniques has been developed for industrial uses by Aeromatic Propeller Dept., Koppers Co., Inc., Baltimore, Md. The new "Aeromaster" fan is said to be applicable to engine-jacket water coolers, large air-conditioning systems, and other uses. The new fan is designed to make possible either a greater cooling capacity with the cooling unit currently in use or an equal cooling capacity with a smaller horsepower consumption. Up to 10% horsepower savings have been reported, according to the manufacturers. (U-3)

Self-Contained Air Conditioner

A laboratory air conditioner has been developed by Carrier Corp., Syracuse, N. Y. This air conditioner is designed for precise and year-round control of temperature and humidity. Uniformity and accuracy in physical testing hitherto considered impractical are said to be assured with the Carrier self-contained laboratory unit. All materials under test are protected by clean air furnished by air filters. The complete unit occupies only

TREES
OF MERCY FROM OUT OF THE SKY

Anywhere in the world where persons are cut off from normal sources of supply . . . food, fuel, medicine, and other necessities can be brought to them by air transport—even though landing facilities do not exist. The answer, of course, is the cargo parachute.

These life-preserving 'chutes usually are made, wholly or in part, from high-strength viscose rayon yarn, much the same kind of yarn that improves the wearing qualities of automobile and truck tires. And what is the yarn made from? Trees!

In fact, more than eighty per cent of all viscose rayon and acetate yarns produced in this country are made from highly purified cellulose derived by chemical processes from wood.

Rayonier supplies a large part of the highly purified wood cellulose used by domestic textile manufacturers for making viscose rayon and acetate yarns and staple fiber for wearing apparel, tire cord, draperies, rugs, and many other textile products. We also supply large quantities of purified wood cellulose for the manufacture of cellophane and other transparent packaging materials.

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PRODUCER OF HIGHLY PURIFIED WOOD CELLULOSE for TEXTILES • TIRE CORD • CELLOPHANE • PLASTICS

Floor of Northern Hard Maple, Looping Department, Melrose Hosiery Mill, High Point, N. C.

NORTHERN HARD MAPLE, MFMA-marked, is so sound a specification for mill floors—particularly textile mills—that architects and engineers have, for years, made it virtually a standard.

Tough, tight-grained, clean, **MFMA** Northern Hard Maple Flooring provides welcome *resilience* underfoot. Workers like it, because they can stand, walk and work on it for hours with minimum fatigue. It does not sliver. It resists the dents and scrapes and pound of truck wheels. It needs only sweeping, as a rule, to keep it thoroughly clean and bright. And "there's always a new floor underneath" with Northern Hard Maple.

And it's Economical! For utmost value, specify **MFMA** Second grade, Second-and-Better grade or Third grade. The varying shadings allowable in these thrifty grades, by **MFMA** strict grading regulations, add beauty and interest, with no sacrifice of performance characteristics. The money saving is appreciable. Consider these economical grades of **MFMA** Northern Hard Maple for your new floors, as well as repairs and over-all modernization projects.

See Sweet's

Section 13/g/6, for catalog data. Ask for new literature on floor maintenance and officially recommended floor finishing products and processes.

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FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

6 sq. ft. of floor area and may be fitted into shelving or restricted spaces. (U-4)

Single-Phase Motor

A new repulsion-induction motor has been announced by General Electric Small and Medium Motor Division, Schenectady 5, N. Y., which is designed for use where a constant-speed, high-torque single-phase motor in large ratings is required. The new Tri-Clad motor combines the high-starting torque of the repulsion motor with the constant-speed characteristics of the induction motor. Designated as type SCR, the motor is available in 5-, 7½-, and 10-hp. ratings, all at a speed of 1,800 rpm. The 5-hp. unit operates on 115/230 volts, while the other two use 230 v. (U-5)

Transparent Plastic Holders

Designed to prevent factory records, shop orders, blueprints, and other production data from becoming soiled, mutilated, and unreadable, new V.P.D transparent plastic holders have been developed by Joshua Meir Co., Inc., 153 West 23rd St., New York 11. Data can be easily slipped into the holders and records can be passed to departments and still remain as new, spotless, and clearly readable as when first inserted. The holders are furnished in sizes to meet all reasonable specifications and are made with one or both sides transparent, with leatherette backings and bindings. (U-6)

Maintenance

All-Metal Washcoat Primer

A comprehensive line of specially formulated D E L protective coatings has been announced by David E. Long Corp., 220 East 42nd St., New York 17. The series "B" coating is both acid and alkali-resistant, and no primers are required for applications to metal or masonry. Aluminum B99 gives a brilliant finish and, it is claimed, does not break down in the container. It may be applied easily with either brush or spray. D E L white B81 is described as "the whitest coating made" and is said to stay white, with no discoloration either indoors or out. (U-7)

Automatic Control of Pumps

A new device for automatically controlling pump operation has been announced by Builders-Providence, Inc., Providence, R. I. The "Pressureflo" control consists of a flow-determining means, a pressure or level-sensing device, and a mechanism to translate this information into a control function. Other equipment consists of standard components plus a special control device to convert flow and pressure into pump response. Other applications of pressure flow are in the pumping of water, sewage, gas, oil, and other liquids. (U-8)

Bronze-Lever Gate Valve

A new rapid-action bronze-lever gate valve has been announced by Jenkins Bros., 100 Park Ave., New York 17. The "Swingtite" valve has ball-and-socket double disks that adjust readily to seat

They're "Springy"

...thanks to Acetate!

Celanese* Acetate Rayon Gives You These Selling Extras

- **A rich, full hand—perfect comfort with less weight**
- **Unlimited style effects through cross dyeing**
- **Wrinkle-resistance for continued neatness—creases that keep their sharpness**
- **Moth, mold and mildew resistance**
- **High dimensional stability**

If there's one thing that sells rayon suits right off the rack, it's a firm, springy hand.

Men have come to associate the resilient, clear finished rayon fabric not only with wrinkle resistance, but with coolness, dimensional stability, and long wear.

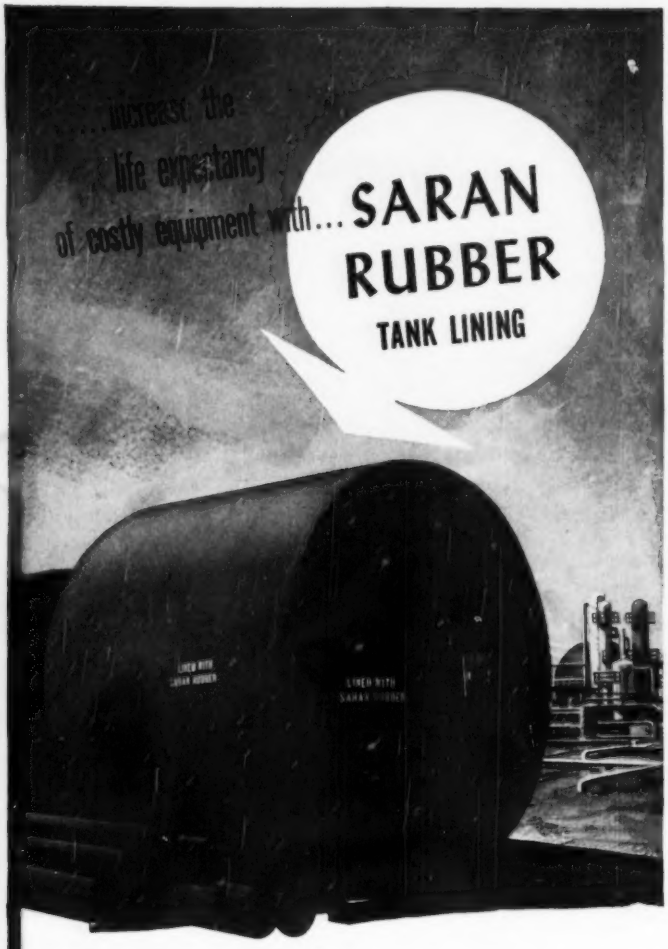
And they're right! For the same Celanese* acetate staple fiber that gives these fabrics their springiness, also contributes to the other qualities that are making rayon suitings so successful.

Celanese Corporation of America, 180 Madison Avenue, New York 16.

Available in Canada from Canadian Cellulose Products Limited, Montreal.

Celanese® **Staple Fiber of Acetate Rayon**

*Reg. U. S. Pat. Off.



Saran rubber, one of Dow Chemical's superior developments in tank linings, has combined the physical properties of rubber with the chemical resistance of saran. This high degree of chemical and abrasive resistance makes saran rubber an outstanding lining where resistance to grease, solvents, acids and other chemicals is indicated.

Saran rubber can be applied easily, effectively and economically by experienced tank lining applicators located strategically throughout the country.

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surfaces. Guide rims rotate freely on the guide tracks cast in the body as the valve opens or closes. This roller action gives a self-cleaning and polishing effect; and it also distributes the wear, since the seating position of the disks changes with each closing. This action of discs and track assures accurate seating with continued tight closure. (U-9)

Elastic Coating for Masonry

A mastic water-repellant elastic coating called Tremco has been announced by Tremco Mfg. Co., 8701 Kinsman Rd., Cleveland, Ohio. The Tremco-101 mastic can be sprayed on or can be applied by brush or trowel. It is said to be effective on all unglazed masonry surfaces, including cement block, concrete block, brick, stucco, cast-stone, natural stone, and other types; and prevents spalling, cracking, crazing, and general disintegration. Mastic 101 is available in natural cement, off white, light yellow, terra cotta, slate, and dark red. (U-10)

High-Pressure Electric Powerguns

Two new-design high-pressure electric powerguns, of 25-lb. and 40-lb. capacity for use where air power is not available, have been announced by Alemite Div., Stewart Warner Corp., 1826 Diversey Pkwy., Chicago 14, Ill. The 25-lb. model 7170-R will deliver 14 oz. of light or medium lubricant per minute at 70° F. It will handle all greases that seek their own level. The gun develops 5,000-lb. pressure. The 40-lb. model 7175-R handles all types of grease—fibrous, heavy, or light—and delivers 5½ oz. of heavy fibrous lubricant per minute at 70° F. It also develops 5,000-lb. pressure. (U-11)

Mop-Wringer Combination

A new mop-wringer combination featuring a stainless-steel pail and a "Squeeze-Easy" wringer has been announced by Market Forge Co., Everett, Mass. The round stainless pail is said to combine an attractive, clean appearance with strong lasting construction. It is easy to clean, is guaranteed leakproof, and is equipped with 2-in. solid-rubber casters on which it rolls smoothly without tipping. The streamlined wringer fits on this pail, also on others, and is designed to offer lighter weight and greater strength with its one-piece construction. (U-12)

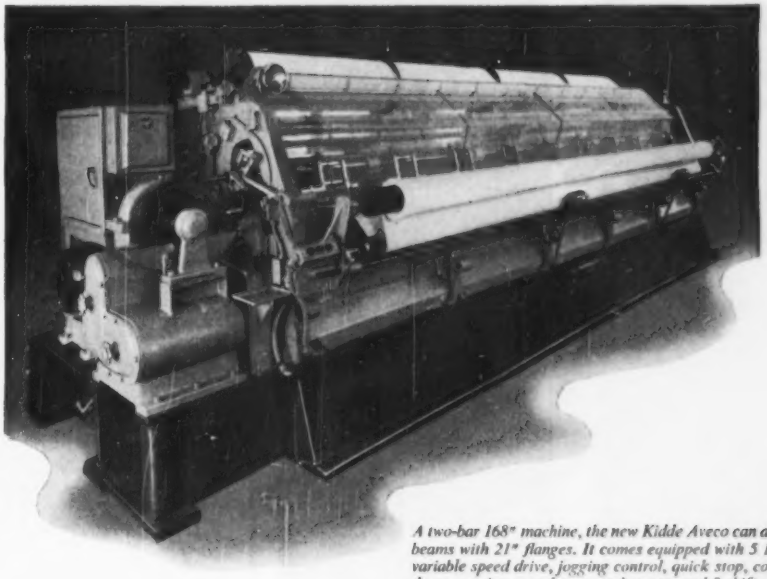
New Spin-Lock Screw

A new washerless screw called the Spin-Lock has been announced by Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y. These screws are available in hex, pan, truss, or flat heads, and are recommended by the company for faster, tighter, less costly assembly. An unusual feature of the Spin-Lock screw is the patented ratchet-like teeth on the underside of the head, which the company says eliminates the time-wasting steps of adding a washer. Locking power is positive as there are no parts to cant or to fall off. (U-14)

Putty That Stays Put

A putty reinforced, like paint, with white lead, zinc, and titanium has been

Improved Kidde-Aveco High Speed Tricot Machine Has Many New Features



A two-bar 168" machine, the new Kidde Aveco can accommoaate beams with 21" flanges. It comes equipped with 5 H. P. motor, variable speed drive, jogging control, quick stop, continuous let-down, continuous take-up, tachometer and 2-shift rack counter.

New Continuous Let-Down—is mechanical in operation, easy to set and maintain. It improves fabric quality, gets rid of shade marks, reduces stop marks.

New Continuous Take-Up—quickly and simply adjusted for quality. No gears or sprockets to be changed. Clutch is eliminated. Once set, no adjustment is required.

New Variable Speed Drive—means quiet operation. Change machine speed by merely turning hand wheel. No gear changes needed. Tachometer included.

And Other Features—make it even better; improved plunger design, improved front guide bar lifting mechanism, quick-stop and jogging control.

● These are just some of the advantages that put the new Kidde-Aveco High Speed Tricot Machine in a class by itself for turning out greater quantities of better quality fabrics. Other features include: a solid one-piece base which gives the machine stability, less vibration; a rugged girth which keeps parts aligned; large diameter cams, running enclosed in oil, which means no trouble or repairs—for years to come.

The Kidde-Aveco High Speed Tricot Machine will give you fabrics without shade marks and stop marks so small they dress out . . . it will give you more poundage than you ever imagined was possible. Why not write or phone for an appointment to see the Kidde-Aveco Tricot Machine in our plant?

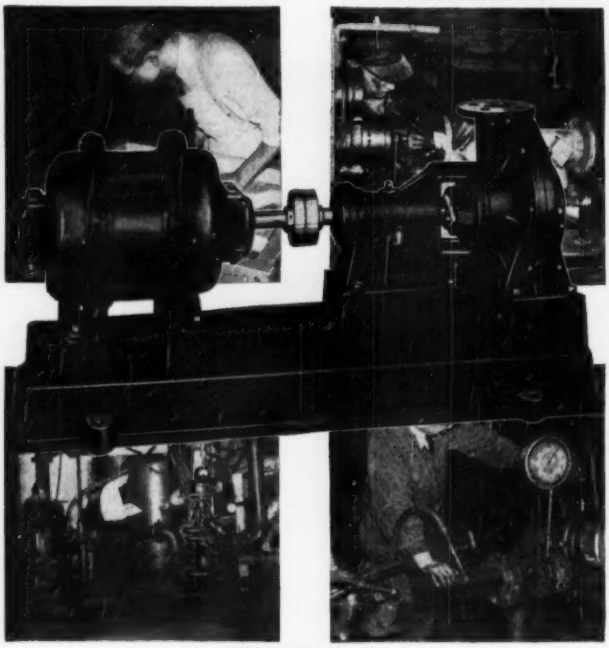
KIDDE MANUFACTURING CO., INC., BLOOMFIELD, NEW JERSEY

Kidde-Aveco

FOR TOP QUALITY FABRICS

What's behind the top performance

YOU GET IN EVERY "BUFFALO" PUMP?



● How well and how economically your pumps perform ON THE JOB—that's how you judge them! With every "Buffalo" General Service or Chemical Pump, it starts with ACCEPTED DESIGN—design that "Buffalo" engineers know is practical o nthe job. Then the best available materials and workmanship. Finally, a thorough test of every pump under the expected conditions—before shipment. Be SURE of this performance when you buy a pump—specify "Buffalo."

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Canada Pumps Ltd., Kitchener, Ont.

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developed by Gilman Paint & Varnish Co., Chattanooga, Tenn. New plastic bags which contain the putty make it possible to knead the putty into smooth working condition without getting it on the hands. It is claimed by the manufacturers that this is the first time that the three above-mentioned pigments have been combined in a putty. It is said to be known in the trade as "the putty that stays put." (U-15)

Rayon-Fabric Strength

(Continued from page 133)

SPUN-YARN TWIST. The effect of twist on the gram-per-denier strength of 20s spun viscose yarns is shown in the second of the accompanying twist charts. In the three examples given, the 1.5-den., 2.1 gram-per-dernier original-strength yarns vary only in staple length.

The 2-in.-staple yarn (at 15 tpi.) figures as 1.62 gram-per-denier tensile strength. The $1\frac{5}{8}$-in. staple yarn has a 1.40 gram-per-denier tensile strength at 15 tpi., while the 1-in. staple yarn equals 1.19 gram-per-denier strength.

The 2-in. staple yarn, of course, has the greatest strength, as shown on the top line of the chart. The $1\frac{5}{8}$-in. staple-yarn break picture follows a course between the 2-in. and the 1-in. staple yarns, as more turns per inch are given in the tests. The 1-in. staple yarn, as to be expected, has the least tensile strength, regardless of twist added.

It is interesting to note in the Fig. 3 that strength losses are fairly uniform in all three yarns as increased twist is applied.

RELATIVE HUMIDITY. Another factor affecting rayon-yarn and -fabric strength is relative humidity. Viscose rayon is highly hygroscopic and loses strength when exposed to higher

FABRIC STRENGTH

$$FS = YS \times NE \times V$$

FS = fabric tensile strength

YS = yarn strength—which depends on yarn type, extensibility (stretchability), twist per inch, and relative humidity

NE = number of ends (or picks, wales, or courses)

V = other variable factors (at least nine in all)

FORMULA for finding fabric tensile strength includes factors in the main phases of the manufacturing process that have an influence on ultimate fabric strength.

MODERNIZE

..FEED-WISE

WITH

EDMOS

SIZE	NUMBER OF FEEDS
12"	16
13	18
14	20
15	22
16	24
17	25
18	27
19	28
20	30
21	31
22	33
23	34
24	36
25	37
26	38

IN ALL GAUGES AND CUTS

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FOR MORE PRODUCTION

IN LESS FLOOR SPACE

PLUS BETTER FABRIC

CONTROL... INVESTIGATE

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With labor costs as they are, the fast, *mechanized* TENNANT System can save you more *today* than ever—besides eliminating scrubbing. Here are 5 reasons why TENNANT "dry cleaned" floors are cleaner . . . brighter . . . safer—yet *cost you less:*

1 **Requires less manhours** for floor maintenance because floors can be cleaned *faster* . . . stay clean longer. Unlike rough, dirt-catching scrubbed floors, Tennant-cleaned floors are smooth, hard, dirt-resistant . . . clean up like magic! Saves time and expense.

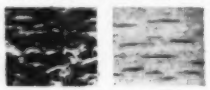
2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.

Write Today! Learn how mechanized "dry cleaning" can save you money. Ask for new bulletin "HOW TO GET BETTER RESULTS IN TEXTILE FLOOR MAINTENANCE."



HERE'S WHAT HAPPENS when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean, and it breaks down rapidly under heavy traffic.

In contrast, microphoto of a Tennant "dry cleaned" floor (right) shows how the bright, smooth, protectively sealed floor resists dirt and wear . . . and is easily cleaned with minimum manpower.

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The way to finer floors
TENNANT
Floor Maintenance System

OFFICES IN PRINCIPAL CITIES

ranges of humidity. The calculations presented so far in this article were predicated on strengths established at 58% r.h.

We suggest mill men bear in mind that viscose rayon will lose 0.1 gram-per-denier strength with every 5% increase in relative humidity. In other words, the fiber loses about 1% of its strength of every 1% increase over 55% r.h. [See TW, July, '49, p. 118].

The influence of "ends per inch" in finished goods is so obvious as to preclude comment.

Quality-Control

(*Continued from page 95*)

are close enough to definitely pinpoint the source of the defect. In this case the second top roll was grooved. It was replaced and this defect was corrected as a result.

How About Evaluating New Products and Methods?

Tests for quality through measurement of variation in sliver-roving, and yarn can be used as a sure-fire check on equipment-manufacturers' and suppliers' claims. A mill man in Virginia was thinking about putting high-compression calender rolls on cards. The quality-control man had been told that he could get more sliver in the can with their use, without affecting the quality of the yarn.

He put the high-compression rolls on several of his cards, and checked the card sliver for variation. He found the compressed sliver a little more uneven than the regular sliver at that point. He processed the compressed sliver on the breaker drawing and tested the drawn sliver. There was still a little more unevenness here, but to a lesser degree. He processed the sliver on the finisher drawing and tested again. The evenness of the sliver here was the same for regular and compressed. This test led his mill to put high-compression rolls on its cards.

A Carolina mill, on the other hand, had the experience of disproving a suppliers' claims. A salesman claimed that he had a new top roll for spinning frames which would materially increase quality of yarn. The quality-control man at the mill asked for several samples and got them. He put them on his frames and spun some yarn. He tested the yarn for evenness, and found that the yarn made on the frames with the new rolls had more variation. The rolls were not bought as a result of this test.

The Uster tester has made tests

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Casters & Wheels
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60 Walker St., New York 13, N. Y.
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such as described above standard procedure in many mills. Heretofore, the effect of any change in processing on quality of yarn could be checked only by the time-consuming method of making end-break checks, testing yarn strength, and making appearance tests.

What Are the Best Testing Speeds for the Uster?

In general, sliver can be tested at the highest speeds, and yarn must be tested at the lowest speeds. The reason is that fluctuation is less rapid in sliver.

A mill in South Carolina uses these speeds—

Ten-yard samples of yarn and roving are tested at 2 yd. per min. with a paper speed (speed of chart) of 4 in. per min. These speeds give the operator time to evaluate the previous chart while the next sample is being run.

Samples of sliver long enough to reflect a pattern are tested at 8 yd. per min. with a paper speed of 4 in. per min. The length of card sliver tested should be greater than the circumference of the cylinder. Less drawing sliver is needed. Also, the sliver is run at a slower speed if anything wrong is indicated in the routine tests, and lengths up to 100 yd. have been run to see a special defect pattern. Chart speed may be increased if you are looking for a special cycle such as a lickerin defect.

Spooler Production

(*Continued from page 129*)

possible productive unit minutes and multiplying by 100.

The rejection of full cheeses by the traveler, an indication to the operator that a new core is needed, causes much of the lost efficiency of the machine. It is best to make the largest package that can be used, because there will be fewer rejections and greater efficiency.

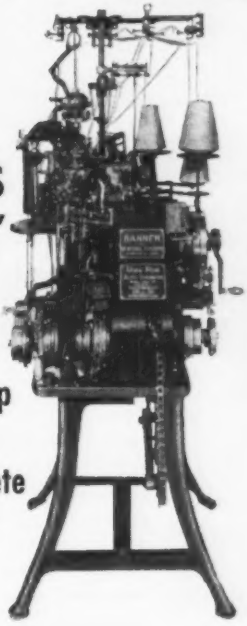
The effect of the rejection of full cheeses on the efficiency of the machine can be found this way:

The number of effective operating units, considering inoperative units as a result of piecing-up, is found by multiplying together the number of units and the efficiency of the machine considering only time lost by piecing-up.

The number of full cheeses per round, considering only time lost in piecing-up, can be found by getting the product of the number of effective operating units, the yards per minute, and the total

One for the Money!

HEMPHILL'S "ALL-IN-ONE" BANNER DIAL-RIB MACHINE



Turns Out True-Rib Top Anklet In One Complete Operation!

For our money . . . for *your* money . . . the Hemphill HDR-300 is the ONE most outstanding development in recent hosiery history. It's new . . . automatic . . . designed for high speed, high quality production of anklets — complete with genuine rib tops.

HDR-300 is your answer to hand-transfer problems. The true-rib top and plain leg and foot are made in one automatic operation with regular latch needles on dial and cylinder. 5-color horizontal striper can be utilized in either top or foot, or in combination in both top and foot.

Contact the Hemphill Company or its sales offices for demonstration, delivery dates and full details on the Hemphill "All-In-One" — *the* dial-rib machine — best value for your money.

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Shipping Hosiery's Footprints All Over The World!

BANNER MODEL HDR-300 "ALL-IN-ONE" MACHINE
Initial Production
3-inch Diameter, 48 or 54 Gauge
(Smaller and larger diameters to follow later)

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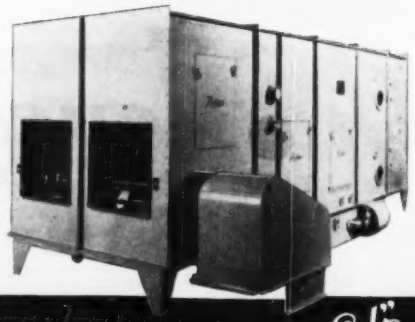
It keeps impurities out of your air—and out of your product! It controls temperature and humidity. Right, a "Buffalo" PCGW Cabinet, wet glass cell air washer.



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IS A *Paying* PROPOSITION
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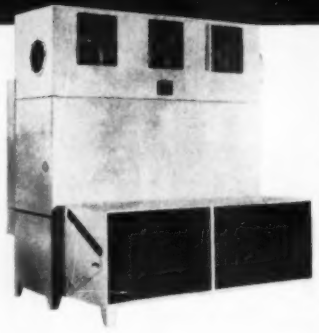

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Write for YOUR FREE COPY of Bulletin 3703, which describes the wide choice of air conditioning available to you in the "Buffalo" line. Right, a "Buffalo" vertical central conditioning cabinet.

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VENTILATING AIR WASHING AIR TEMPERING INDUCED DRAFT EXHAUSTING
FORCED DRAFT COOLING HEATING PRESSURE BLOWING

minutes per round of the traveler; and dividing this product by the yards per cheese.

The overall machine efficiency, then, would be the result of subtracting the number of full cheeses per round from the number of effective operating units, dividing by the total number of units, and multiplying by 100.

2. WINDING EFFICIENCY OF YARN

Some yarns have better windability than others. Strong, high-quality yarns will unwind better than weak, low-quality yarns. Yarns requiring cleaning at the spooler will not wind so well as those not requiring cleaning. The end breakage on the spinning frame or twister will directly affect breakage at the spooler. The build of the bobbin will directly govern the winding of the yarn. The yardage uniformity of the bobbins has a great effect on the winding efficiency, because the speed of the traveler is governed by the maximum yardage on the bobbins.

Therefore, since the strength and quality of the yarn can't be changed just to give higher efficiency at the spooler, you can increase your production in this respect in only limited ways. Use the bobbin build to give best results—no sluffing, but not too much tension; get good work from spinners and twister operators both in quality of piecings and uniform yardage.

3. EFFICIENCY OF OPERATORS

Although operators of spoolers are comparatively unskilled, their attitude has a great influence upon production. The manner in which they place the bobbins in the reserve holders can affect the unwinding of the yarn and the tying qualities of the knotter.

Good operators may even preceed the traveler and take off full cheeses before they are rejected. In any event, they should replace cores for full cheeses as they are rejected. Also, the traveler should not be allowed to stop through any fault of the operator.

Operators should be trained in the best methods of operation and be encouraged in some way to do a top-notch job. Here is a good method of calculating the efficiency of operators:

Take the weight of yarn actually produced in a 1- or 2-hr. period; make sure that the spooler is not stopped for any reason that cannot be charged to the operators.

On the same basis, take the weight of yarn produced over as long a period of time as possible—say, 20 hr.

The short-period test will show

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To discover the improvements you can get at surprisingly low cost with Carpenter Stainless Tubing, drop us a line or return the coupon for the new Data File Folder. On many jobs, Carpenter's long experience with Stainless Tubing has made it possible to get all the advantages of Stainless Steel, at a saving.

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Please send me a copy of the 12-page Data File Folder on Carpenter Stainless Tubing and Pipe.

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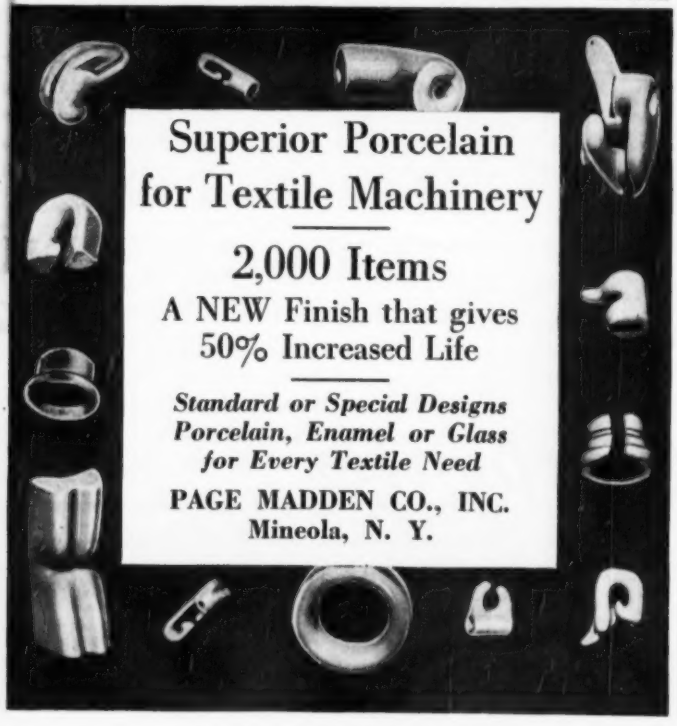
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A NEW Finish that gives 50% Increased Life
Standard or Special Designs Porcelain, Enamel or Glass for Every Textile Need
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Mineola, N. Y.

practically 100% efficiency by the operators. Divide this production by the number of hours used and also by the average hourly production of the long test; multiply by 100 and you have the percentage of efficiency of the operators being tested.

4. EFFICIENCY OF MANAGEMENT

Try to hold your yarn changes to a minimum, to balance production of related machines, and to keep the machines in good working order.

The machines and the operators must at all times have the facility to obtain maximum production. The timing of the round of the traveler should be such that almost as soon as one bobbin is emptied another is put into working position.

Bobbins of different yardages should not, unless absolutely unavoidable, be spooled on the same machine at the same time. With two yarns of different yardages on the machine together, the yarn with the shorter yardage must necessarily lose production. This loss is not chargeable to the machine, yarn, or operators.

If you were to calculate from all available information the hanks or pounds spooled over a long period of time, say three months, and compare this figure with the actual hanks or pounds processed, you would obtain a figure which would represent your productive efficiency.

Cotton-Classing Light

(*Continued from page 139*)

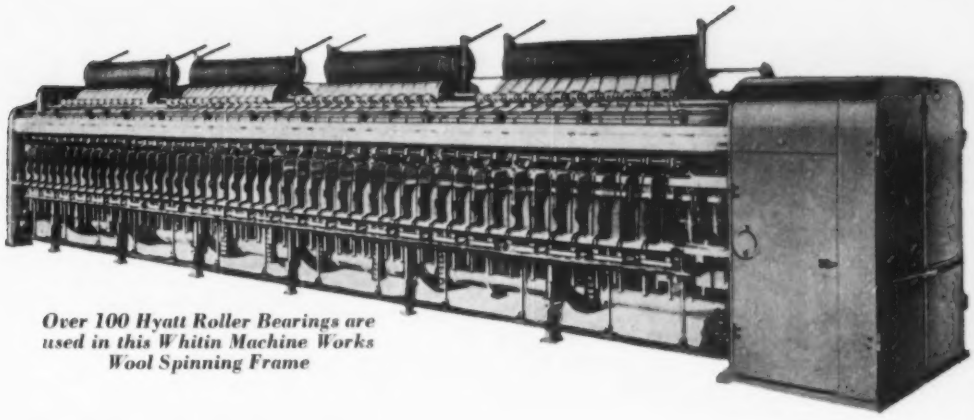
000-watt Mazda lamps with filter-glass covers. Exterior coverings of the ground glass are used. An air blower attached to the light unit circulates air and reduces radiant temperature. The entire light unit is fastened to the ceiling at a height of 8½ to 9 ft. above the floor. It is mounted at an angle of 11° directly over a classing table.

At other textile mills where larger classing departments are necessary, several of the 6-ft. units have been installed. Large cotton merchants are also using artificial-daylight installations.

For a number of years illuminating engineers have been searching for artificial light that would approximate natural north light. A number of lights that attained varying degrees of success have been developed.

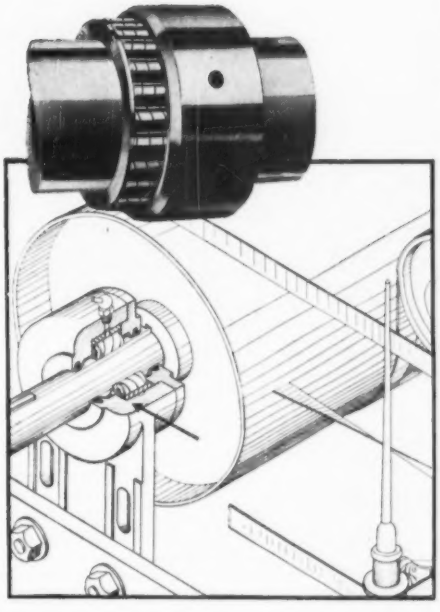
Since color is an important factor in grading cotton, it is necessary that light sources and intensities, along with color temperatures, be uniform if standards are to be observed.

Tests conducted over a long period



Over 100 Hyatt Roller Bearings are used in this Whitin Machine Works Wool Spinning Frame

HYATTS help to cut costs



Hyatts save in power and lubrication—and yarn is kept cleaner

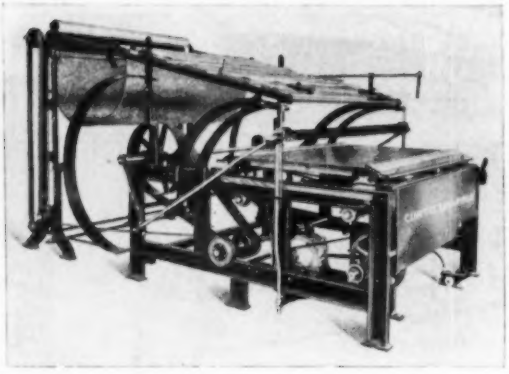
Operating and maintenance costs go down—quality of fabric goes up when Hyatt-equipped textile machinery is used in a mill.

Consider spinning frames and twisters for instance. Hyatt Roller Bearings in the cylinders, as illustrated at the left, assure a true, smooth-running, high-speed operation that can be depended upon for continuous performance.

Thousands of Hyatts are in use in cotton, wool and rayon spinning frames, looms and other machines eliminating down-time, saving power and lubrication costs. Yarn and cloth are cleaner because oil and grease cannot leak out of the bearings.

In all textile machinery, Hyatt Roller Bearings are preferred by operators and builders. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS



BALL BEARING CLOTH FOLDER

All types of our Folding Machines now have Ball Bearings; they make an easier running machine, need less maintenance, and permit reduced tension on the table springs.

Illustrated is a Cloth Folding Machine for yard folds, with No. 4 Top, Lewis Pneumatic Table Lift, and Motor Drive. We also make Air Operated Folders, Folders with automatic stop motion, Folders with extra capacity, and with counting devices, etc.

Sole Builders of Elliot & Hall Folders

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Ring Travelers

TRAVELER WEAR

Do your Travelers wear out quickly? Is the reason yarn cut or ring cut? A change in style might give more life.

Send us some worn Travelers, with a ring, and try our suggested style.

Our experience is always available.

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STERLING RING TRAVELER CO.
FALL RIVER, MASS.

of time indicate that best artificial-light conditions are obtained when intensities approximate those of a moderately overcast north sky. The color specification should duplicate the north-light color as closely as possible.

In trying to develop artificial conditions that would duplicate or improve on natural north light, engineers varied light sources and intensities over wide ranges. Data obtained indicated that 60 to 80 foot-candles at the horizontal working plane were the best light intensities. Little advantage was gained when intensities were increased above 100 ft-c.

Another important factor in artificial lighting is proper and uniform diffusion over a sufficiently large working area. What is needed is a large light source of relatively low brightness.

TEMPERATURE. Analysis of color temperatures have led to many discoveries in regard to the effects that light sources have on objects.

The U. S. Dept. of Agriculture conducted a series of investigations on the amount and the color temperature of daylight used and preferred in classing cotton. Also, a committee of the Inter Society Color Council has studied lighting-condition requirements. The textile industry has actively participated in studies.

Objective of the tests was to determine the proper foot-candle setting and color-temperature specifications for artificial lighting.

It was found that during daylight hours natural light varies between wide limits. There are also variations in light between the different seasons of the year.

In classing rooms equipped with skylight, natural daylight varies between 12 to 350 ft-c. and from 5,000 to 40,000° Kelvin color temperature.

Such wide variations in intensity and color temperature make cotton classing and color matching difficult tasks. The classer has to make mental reservations in matching cotton to a set standard.

Conclusions drawn from the tests were that illumination of 60 to 80 ft-c. was satisfactory, with little advantage in amounts above 100 ft-c. The preferred color temperature was in the vicinity of 7,500° Kelvin, which matches the color of a moderately overcast north sky.

With light of these standards, it is possible to class cotton anywhere at any time of day or season. Where standard artificial light is used by both the warehouse and the textile mill, fewer classing differences result.

One drawback is that many cotton

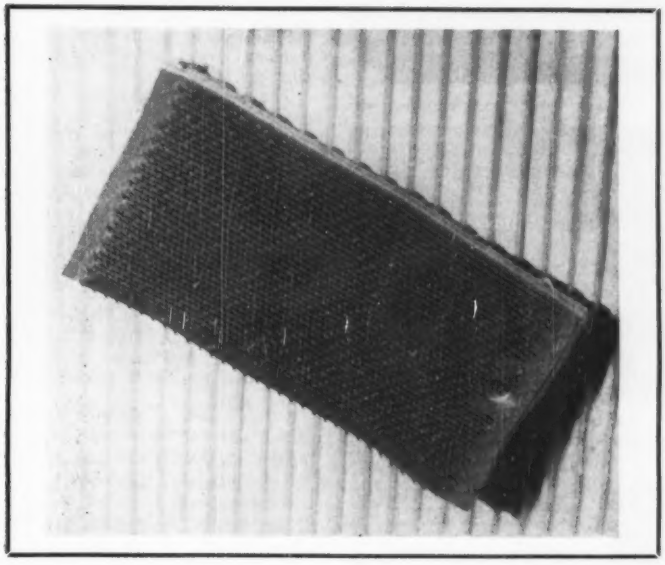
OCTOBER 1950

CARD CLOTHING NEWS and views

WRITTEN MONTHLY BY E. A. SNAPE, JR., PRESIDENT, Benjamin Booth Company PHILA., PA.

STRIP-O-MATIC

An Entirely New Experience in Card Clothing!



STRIP-O-MATIC Card Clothing has literally "opened new worlds" in carding.

Users have thus expressed it after installing STRIP-O-MATIC and critically watching its operation. Naturally, they compared it with conventional card clothing, and on that basis reached the conclusion that here, truly, they were witnessing an entirely new experience in carding.

How does it represent such a difference over other clothing? For one thing, stripping is cut to a bare minimum. Which means a saving in labor, enabling the "Strip Crew" to work elsewhere. This means savings in production, too, because there is far less "down time".

And—with these savings—comes better carding!

Today, almost 200 textile plants have installed STRIP-O-MATIC. And they praise it for being *different . . . better . . . more profitable!*

How would you like to witness this new experience in carding? You can, merely by using STRIP-O-MATIC the next time you order card clothing.

Let us tell you all about this remarkable product. Your inquiry will receive prompt attention.

Sincerely,

E. A. Snape Jr.

President.

Benjamin Booth Company
Allegheny & Janney Sts.
Philadelphia, Pa.

FREE!

8-Page Color Booklet On

STRIP-O-MATIC

8 pages that show in detail the unique features of STRIP-O-MATIC . . . how it is made . . . how it operates . . . how it offers savings and enables you to profit by using it. Get your copy today.

HERE ARE THE FEATURES THAT MAKE STRIP-O-MATIC ENTIRELY DIFFERENT

(1) WIRE IS STREAMLINED . . . set and spaced to permit free movement of the stock with no trapping of stock around teeth. Wire also holds pitch, even under the greatest strain.

(2) FOUNDATION (Clear Run) . . . is designed for resiliency plus strength to allow flexing of wire.

(3) PLASTIC FACE is oil and water-proof.

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BEMIS TITE-FIT TUBING

This versatile burlap tubing snugly fits almost any size of roll or bale . . . is quick and easy to use . . . and has proved it can save a substantial part of the labor cost of many packing operations.

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Wichita

classers do not take readily to artificial lighting. Having had their training and experience with north light, they are reluctant to change. It has been found, though, that after they have worked under uniform artificial light for some time, classers prefer it to natural north light.

New French System

(Continued from page 111)

ing gill box with rub aprons that delivers a firm, well-condensed sliver to the open gill box. They must obtain the open gill boxes necessary for the processing of the roving, usually 2 to 3 per set; but they can use their existing porcupine frames.

ADVANTAGES. Fig. 4 shows a drawing set before and after reorganization. The advantages are obvious. Usually, with three new machines, the spinner can reduce the number of drawing operations for 40s yarn from nine to seven, the number of machines from 20 to 11 or 12, and the number of operators from 20 to 11 or 12.

Similar reductions in operations and machines can be achieved for yarns ranging from 25s to 27s.

The savings in labor and maintenance cost are such that the investment required should be amortized in a very short time.

The advantages of the new Continental spinning system can therefore be summed up as follows:

1. Fibers of staple length from 25/32 in. up to 10¼ in. can be processed.

2. Even tops of slightly irregular staple can be successfully handled. Tops of rigid staple length or so-called "short-staple" tops are not needed on this system in order to produce even yarn.

3. Level yarn is obtained because of the constant fiber control during the drawing operation.

4. Even and well-blended yarn is obtained because of a number of doublings. Unevenness in tops is largely eliminated.

5. Doublings enable mills to produce a well-blended yarn, which is of paramount importance for wool or top-dyed mixed-color yarns, and to produce blends of wool with mohair, angora, rabbit hair, cashmere, cotton, nylon, Orlon, viscose, acetate fibers, etc.

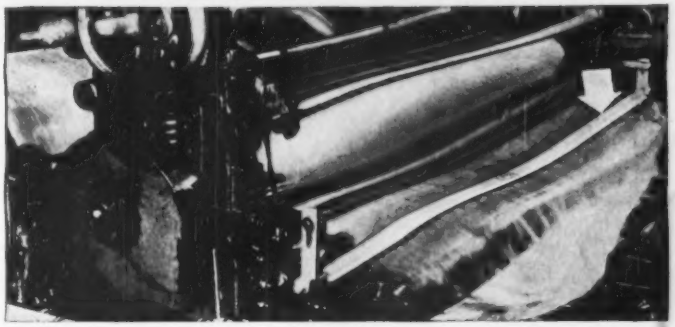
6. The system permits the manufacture of an even, soft, and lofty yarn.

7. All the above advantages can be obtained at production costs which are competitive with other systems and insure profitable operations.

For more information, write direct or use Reader Service post card.

THIS SIMPLE BAR...

...may stop your STATIC TROUBLE



Its appearance is misleading. It looks too simple to be effective. But the Ionotron Static Eliminator® *has eliminated static troubles,* in hundreds of installations, on a wide variety of textile equipment, including tape condensers of wool cards, gear boxes of drawing frame delivery units, Peralta machines, ironers, hosiery boarding machines, finishing machines, and elastic thread processing equipment.

How Ionotrons Work

Ionotrons continuously emit alpha rays, which remove static charges by ionizing the air in the static zone. Sealed in a metallic bar is a strip of foil that contains a highly diluted and carefully controlled amount of radium—the only long-lived emitter of alpha rays that is commercially available. The action is continuous for the life of the textile equipment. No electric power is needed, and there's no operating cost.

How safe are Ionotrons?

Like an electric circuit or a fast-moving shuttle, an Ionotron *could* be so misapplied that a potential hazard would result. Properly installed, however, there is no danger to personnel, property, or equipment. Accurate test instruments are at hand to prove that the installations are well within the conservative safety limits established by health authorities and other experts in this field. On all Ionotron installations, an adequate factor of safety protects even those operators who may depart from normal positions and procedures on the job. We will not recommend or furnish Ionotrons for installations where equipment construction will not permit effective shielding or if operating procedures will not permit compliance with instructions.

How much do Ionotrons cost?

Considering the increased production you get by eliminating static troubles, and the improved working conditions employees enjoy due to reduced humidity, Ionotron installations are economically feasible for many types of mill equipment. Prices of Ionotrons installed on Peraltas range from $200 to $240. On a tape condenser of a wool card, a complete static-elimination installation may involve as many as four bars and cost some $900. But—the Ionotron's first cost is its *only* cost. *Once in place, the only maintenance required is an occasional wipe with a soft cloth.*

Send for Free Bulletin

Along with factual information on the Ionotron, U. S. Radium has a simple questionnaire form ready to send you. Filled out and returned to us, it very likely will permit us to tell if your static problem can be solved in this way, and whether the Ionotron can pay its way in a successful installation in your mill. Just fill in and mail the coupon below.

Mail Coupon for Descriptive Bulletin

USRC

IONOTRON *Static* **ELIMINATOR**

*Dept. 908, U. S. Radium Corp., 535 Pearl Street, New York 7, N. Y.

Please send illustrated bulletin describing uses of the Ionotron Static Eliminator in textile operations.

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Company _____

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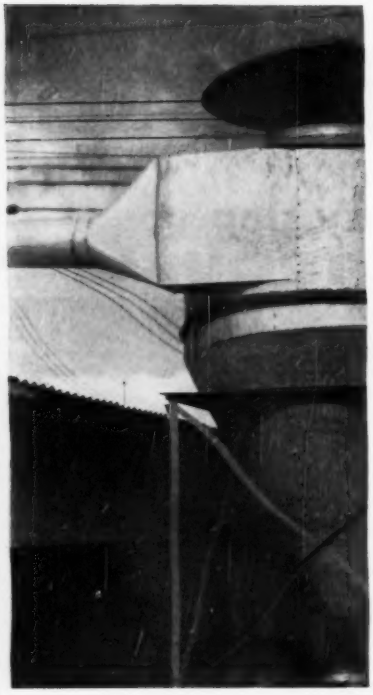
*Inquiries from Canada and British Commonwealth should be addressed to Eldorado Mining & Refining (1944), Ltd., Ottawa, Ontario, Canada



DUST CONTROL?

A troublesome Question on pickers, garnetts, condensers, shears.

The Right Answer, for your particular problem must come from the engineer who can apply years of experience in textile dust control to your specialized problems.

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COLE ELEVATED TANKS

• Design plays an important part in tank maintenance. Experienced engineers design Cole tanks for easy access and minimum maintenance costs, as well as for permanence, safety, and dependability. Send us your inquiries for tanks 5,000 to 2,000,000 gallons—stating capacity, height to bottom, and location. Write for latest Cole catalog—"Tank Talk."

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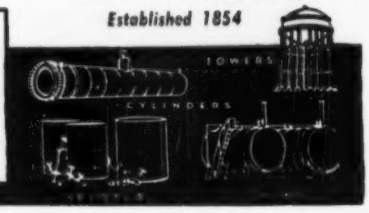


The Textile Community

(Continued from page 143)

munity but have opened them for the enjoyment and the participation of the town as a whole.

YMCA FACILITIES. In Kannapolis N. C., Cannon Mills has built a beautiful community YMCA that boasts one of the largest memberships in the United States per town population. The building has a wide variety of facilities, including swimming pool and gymnasium and library. Here all residents of the town, as well as groups from all over the state, meet, especially at tournament time. In McColl, S. C., the Plymouth Manufacturing Co. has opened a handsome, air-conditioned community house and adjacent athletic fields. As the town did not have a public library, the mill included one in the community building.

In Alexander City, Ala., a fine swimming pool has been built by Russell Manufacturing Co. In Georgia, at Lindale, Pepperell Mfg. Co. has built a large new auditorium-gym. And one of the state's show places is the handsome Callaway Mills auditorium-gymnasium, where concerts, plays, and other entertainment of the lyceum-circuit type are held for the community and mill employees. The adjacent swimming pool is adequate for A. A. U. tournaments.

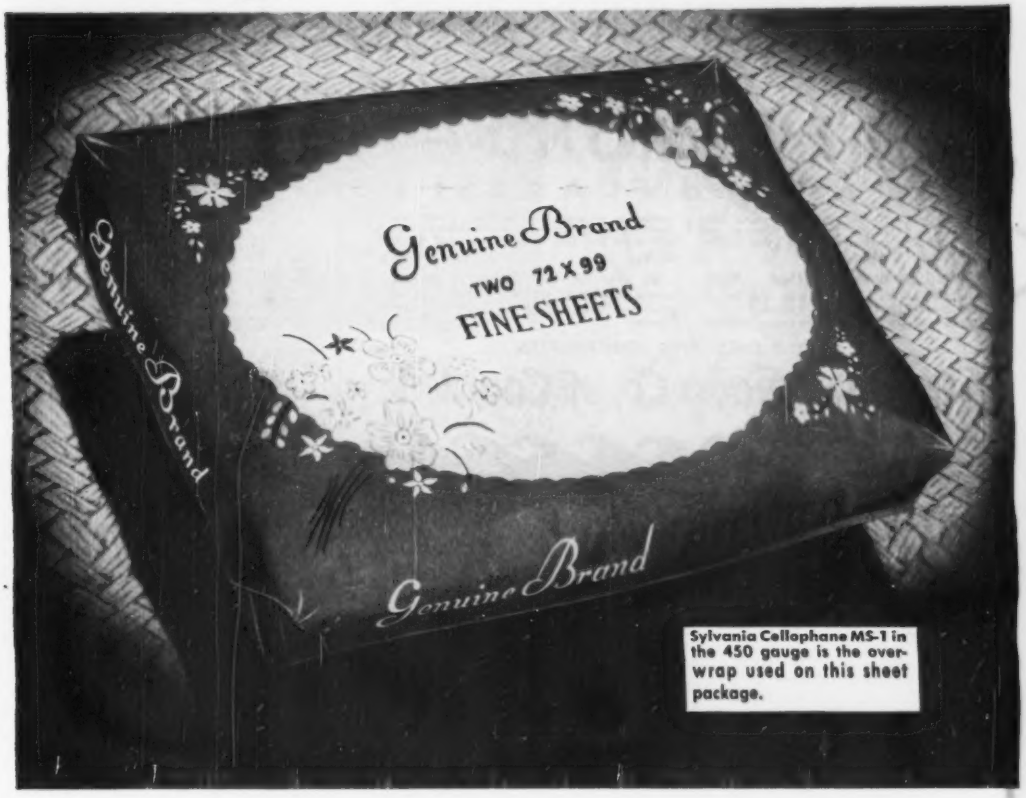
Recreation takes other forms, too. It was down in LaGrange that the little daughter of a local business man climbed up on his knee and wheedled, "Daddy, please, please go to work in the cotton mill so I can take dancing lessons." The Better Home Town statewide contest sponsored by the Georgia Power Co. year after year, which has given enthusiastic stimulation to community recreation projects, includes—of course—textile towns.

Camps and summer vacation spots for textile employees are no longer rarities. Camp Helen on the Gulf of Mexico, built for employees of the Avondale Mills, is the answer to anyone's vacation dream. The Springs Cottom Mills Springmaid Beach, which adjoins the State Park at Myrtle Beach, S. C., has been in operation two years. The clubhouse and cafeteria accommodate 400 people, and cottages are already completed for 120. Cottages are planned for 480. A 620-ft. fishing pier adjoins the 1,000-ft. beach frontage.

RESULTS ARE TANGIBLE. Everywhere it is the same, throughout the vast textile area, whether it is in New England, Georgia, Alabama, Virginia, or the Carolinas. The excellent rec-

SYLVANIA® CELLOPHANE

The PLUS that means more sales!



Sylvania Cellophane MS-1 in the 450 gauge is the overwrap used on this sheet package.

Specific qualities engineered for your product tells why:

1 Sales Appeal
2 Transparency
3 Durability
4 Dust Protection
5 Low Cost

Mr. Cellophane is always available to help you solve your packaging problems. Talk over your requirements with your Sylvania representative or write us mentioning the specific application in which you are interested. Address Market Development, Dept. TW-10.

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Manufacturers of cellophane and other cellulose products since 1929
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SOAP and FLAKES!

Surely you, as everyone, are watching costs today with an eagle's eye. Cut down on unnecessary costs without delay by using DRUMMOND Soap or Flakes.

DRUMMOND leaves fabrics cleam . . . softer . . . colorful . . . ending once and for all your scouring and finishing problems!

Both DRUMMOND Soap and Flakes have the advantage of high body and low alkali content—an advantage that leaves fabrics clean with a downier feel, brighter color and whiter white.

We offer you, entirely free, a generous sample of DRUMMOND Soap or Flakes to see what we mean. Write us today for your sample.

TEXTILE OILS AND SPECIALTIES

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How to read with
your eyes open for business

Read the ads! Every issue of this magazine contains ads that offer valuable services and useful products by which your business may be run more profitably.

The time it takes to read all the ads is time well spent. One ad alone can pay off – by informing you of new developments and new sources of supply, by helping you do a more efficient job. For example, you may locate one machine that will cut your production costs, or step up your output. Or you may discover that the equipment you've been waiting for is now available.

This magazine displays more ideas and merchandise than a trade exposition. Make every issue your buyer's guide. Read the ads as well as the articles. That's reading with your eyes open for business.

HEADQUARTERS FOR BUSINESS INFORMATION

McGRAW-HILL publications

reation centers and athletic facilities, with the leagues, teams, and tournaments which thrive because of them, revive the spirits, build up health, relieve the tedium of work, and give pleasure to the entire community. But they do more than that. No matter who sits next to you on that bleacher seat—if he is rooting for the same team, he is your comrade, he speaks your language. No matter what his job, or where he lives, you can clap him on the back and call him "Brother!"

Vinyon HH Staple

(*Continued from page 102*)

may be expected to affect the strength of the material.

Vinyon HH Bonded Mats—Vinyon HH bonded-fiber mats are being commercially produced successfully from 100% Vinyon, and in blends of from 5% to 95% with other fibers. In a blended-fiber mat, the degree of flexibility, softness, resilience, strength, porosity, and other features may be controlled over a wide range. They will depend upon the type, length, and denier of Vinyon and blending fiber used, method of processing into the mat form, and the bonding procedure used.

As a general rule, rayon-Vinyon mats containing 5% to 25% activated Vinyon HH will have about twice the strength of cotton-Vinyon or wool-Vinyon mats containing similar amounts of Vinyon HH. Mats containing 15% to 25% activated Vinyon HH blended with wool compare in strength with cotton mats of the same Vinyon content. Below 15% activated Vinyon HH, the cotton-Vinyon mats appear stronger than wool-Vinyon mats. Relative fiber strengths and the amount of Vinyon bonding apparently serve an important function.

Bonding Problems—While the range between tacky and melting temperatures appear quite large, the effective range for satisfactory bonding is actually very narrow and approaches the melting temperature of the Vinyon staple. For continuous-production bonding, when the heat and pressure are applied in a matter of seconds, the temperature of the heating element should be maintained at about the melting range of the Vinyon. In this critical region, the temperature must be closely controlled, and the pressure kept at a minimum consistent with an acceptable finish.

A few loosely-held surface fibers may slough off the web or fabric being

For more information, write direct or use Reader Service post card.

It MUST be GOOD!

"NATIONAL" Nylon HEAT SETTING MACHINE

OUTSTANDING *in Efficiency, Safety, Economy!*

Its spontaneous acceptance by the Nylon Industry, demonstrated by the number now in use, is evidence that the "NATIONAL" NYLON HEAT SETTING MACHINE performs this important operation with outstanding success. The result of over three years development work by "NATIONAL" engineers, in cooperation with leading Nylon processors, this modern machine incorporates the following features among its proven advantages over previous equipment:

CONTINUOUS AUTOMATIC AIR COOLING SYSTEM...
an integral part of the machine that meets this vital requirement with fool-proof efficiency.

CONTROLLED, REPRODUCIBLE TENSION...
effected by a patent pending arrangement under highly sensitive control.

BURNER OPERATION AND CONTROL...
The heated cylinders are equipped with automatically controlled gas burners which transfer their heat to a constantly circulated "Dowtherm" core. Temperature on each cylinder is individually adjustable by a controller sensitive to plus or minus 0.2°F.

A heat-reflective enclosure aids in maintaining greater uniformity and thermal efficiency. Exhaust gases are continuously withdrawn from each cylinder. Cylinder bearings operate at room temperature while cylinders are functioning at full heat. Micro-grooved roll surfaces reduce filling shrinkage.

LOW FUEL CONSUMPTION...
Careful tests have shown gas consumption of less than 85 cu. ft. per hour at a speed of 50 yards per minute.

* * *

The "NATIONAL" Nylon Heat Setting Machine is designed for continuous feed; a wide range of variable speeds; and operating temperatures to 500°F. and higher. It is of rigid, durable construction, with every detail meeting the highest standards for quality and reliability.

* * *

Arrangements can be made to see a "NATIONAL" Nylon Heat Setting Machine in operation, and for running tests on samples of your own cloth in a standard unit. A phone call will take care of the details.

THE NATIONAL DRYING MACHINERY COMPANY

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New England Agent: INGALLS ENGINEERING CO., Providence, R. I. Southern Agent: F. W. WARRINGTON, Charlotte, N. C.

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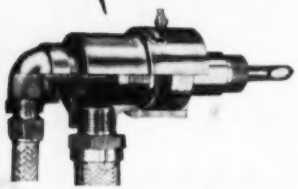
DRYING AND CONDITIONING MACHINERY FOR TEXTILES, CHEMICALS, PHARMACEUTICALS, CERAMICS, FOODS AND OTHER PRODUCTS

Why Engineers and Maintenance Men Prefer ROTARY UNIONS*



Wherever heating or cooling materials must be injected into revolving shafts or drums, ROTARY UNIONS offer distinct advantages.

1 They Last Longer

The seal is lapped absolutely flat to the millionth of an inch so that dirt and rust cannot get in to cause wear. Complicated supports are unnecessary. The ROTARY UNION is designed to float on the flexible hose, absorbing misalignment and shock.

2 They Speed Production

ROTARY UNIONS can be run at high speeds with minimum friction drag and with positive sealing. Longer, uninterrupted trouble-free service cuts down-time.

3 They Reduce Maintenance

Ball bearing construction effects a 30 to 80% saving in power. Simplified piping reduces installation costs and makes the machine more accessible.

Save by replacing your stuffing boxes, packing joints, and worn-out steam joints with efficient ROTARY UNIONS. Write for our illustrated catalog.

Branch Offices in Principal Cities

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Charlotte 5, N. C.

*Reg. Pat.

bonded, adhere to the hot metal, and melt. If this trouble occurs, the chances are that other fibers will build upon the melted ones until the entire web passing over this point may be torn. Such trouble can be averted by careful control of the time, temperature, and pressure, as well as prevention of fibers melting on the heated-pressure drums, or platens. These factors can be adequately controlled either automatically or by careful personal supervision.

The application of silicone-rubber mold-release agents or the use of Teflon (polytetrafluorethylene) on hot metal surfaces will reduce the seriousness of fiber sticking. Wrapping the hot metal rolls with glass fabric, or pressing between cellophane, has proved successful when such methods can be used.

6. *How Does It Spin?*

Because of the low strength and high extensibility of Vinyon HH staple, it has not been a very satisfactory fiber to spin into yarn. Static gives trouble in processing 100% Vinyon; but the application of certain finishes, such as Avcosol 104, and the use of static eliminators usually are effective in eliminating static.

Loading on the card is also a problem with 100% Vinyon but has been fairly well controlled by using a fancy roll or continuous stripper. These remarks apply to the higher-strength MST as well as regular UST Vinyon HH types. Less trouble and more uniform yarn is to be expected through use of the MST type. For cotton-system use, the 3-den., 1½-in. length is preferred.

Vinyon HH staple spins easiest on the woolen system. Woolen-spun 2½- and 5-run Vinyon HH yarns of acceptable strength and quality have been spun on a commercial scale.

7. *How Is It Dyed?*

While Vinyon HH staple may be stained, it has not been practical to dye it to deep shades possessing any reasonably good degree of wash and light fastness. One or the other may be obtained with fair success using selected acetate dyes. These dyes are applied in a bath containing 5 to 6% Onyx Vinyon dyeing assistant or other swelling agent for Vinyon such as orthohydroxy diphenyl or di-butyl phthalate.

It is well to paste up the dyestuff with Igepon and a little water. This paste should be stirred into hot water, and the dispersion added to the water at 110° F. in the dye tank. The assistant is then added as the dyeing is started, and the temperature is raised to 130° F. Dyeing is continued for

USE FILE 27-10

Wool Scouring

A formula using "C" Silicate ($Na_2O:2SiO_2$) resulted in improved quality and in greater recovery—an increase from 3 to 5%. "C" replaced part of the soda ash. The improved detergent action of "C" reduced soap consumption with savings to 75%.

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"C" & PQ—Reg. U.S. Pat. Off.

SILICATE P's & Q's

For more pointers on this or other PQ Silicate textile processes, write us.

SOLUBLE SILICATES for INDUSTRY

STRAIGHT DOWN THE LINE

THE NEW TYPE L BOBBIN CLEANING MACHINE IS

CUTTING COST

CUTTING COST

CUTTING COST

In mills of all sizes, with all kinds of quill cleaning problems, the New Type L has proved its economic value in higher production and lower costs.

Users are highly pleased with its total production, speed 4000 to 6600 quills per hour . . . with its ability to handle a wide variety of quill designs and sizes and to accommodate a wide range of yarns including continuous filament, wool and worsted, and many counts of spun rayon and cotton.

Waste is removed by jets of air and brushes. Neither quills nor quill finish can possibly be damaged, greatly reducing quill replacement costs.

Terrell engineers will welcome an opportunity to discuss your cleaning and handling problems. Their long and varied experience makes them experts in analyzing the job and then showing you exactly "how much" you can cut your present costs with Terrell's modern bobbin cleaning and handling equipment.

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CHARLOTTE, NORTH CAROLINA

NYLON YARN DYED *Without* Adding Twist

Our package dyeing method is satisfactory for the producer's original low twist.

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CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

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Fifth Ave., New York 1

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¼ to ¾ hr. depending upon how fast the shade develops. The stock is then given a light rinse and scoured with Igepon at about 110° F. A finish is added, if desired, to be followed by air drying.

For blending with wool to be afterdyed with acid colors, it is recommended that the Vinyon first be dyed with naphthol dyes in the presence of an assistant and diazotized with acetic acid and sodium nitrite. The wool can then be brought up to shade in the wool-acid dyebath.

Before any attempt is made to dye Vinyon HH, competent technical assistance should be obtained.

Pointers for Supervisors

(*Continued from page 161*)

—"Santa Claus Visits Avisco"; a parchesi-type game

—"Dot to Dot"; draw lines between numbers to form a picture.

Finally, prizes were offered to those Viscose boys and girls under 16 who drew the best pictures about Christmas.

No Socialism! The Freedom Forum has been used by many companies in the Chicago area and is spreading throughout the United States. It is a good, ready-made employee-education program that can be especially useful to small mills.

The Forum, as described in *Thorcast*, the employee newspaper of Thor Corp., Cicero, Ill., "is a program undertaken by a committee made up of American advertisers and advertising agencies together with the National Education Committee of Harding College, Searcy, Ark., to alert American citizens to the dangers of the socialism which is gradually creeping into our government and into our way of life."

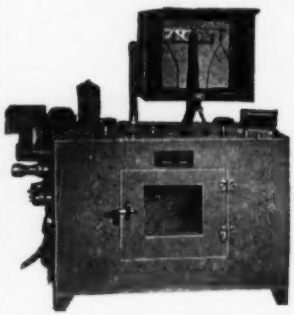
The program, which consists of a slap board talk called, "This is our problem" is presented at the company plant for both factory and office personnel. Local management participates in the presentation.

According to *Thorcast*, the program has been endorsed by such labor leaders as Philip Murray, president of the CIO, and William Green, president of the A. F. of L.

Understandable English in Your Business. Remember those almost impossible-to-understand directives put out by the Government during the last war?

Well, if there is a next war, it may be rougher for us to live through; but at least there is some hope that we

Textile Testing



For accurate testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼" both 6" deep. Occupies table space 20" x 40".

EMERSON Ovens

Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work. Write for details on EMERSON OVENS to fit your process.

EMERSON APPARATUS CO.
177 Tremont St., Melrose 76, Mass.

Weave Mills that require

PAPER FILLING

Rely on

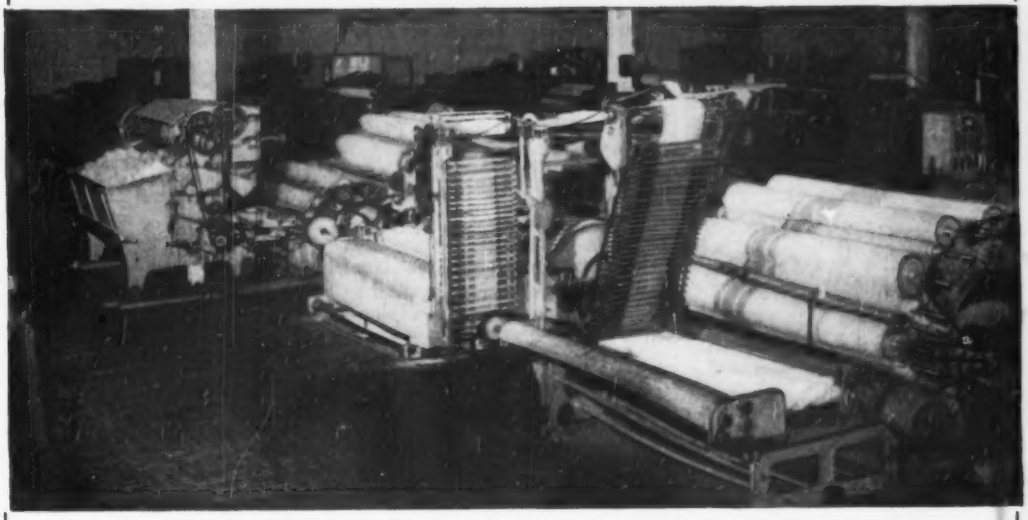
LAZENBY WINDERS

For hard or soft twist, crushed or paper ribbon, we can supply Cop & Bobbin Winders to produce maximum yardage & uniformity.

Send us a small supply of your paper and we will wind & return with Test-Wind Report and Catalog.

F. A. LAZENBY & CO.
3106 Elm Avenue
BALTIMORE 11, MD.

More Newport News Cards For Forstmann



GREATER OUTPUT OF A BETTER AND MORE UNIFORM PRODUCT

The Newport News Wool Card has met the exacting demands of the Forstmann Woolen Company. This fact is now confirmed by the placing of an order for nine more Newport News Cards by that producer of high quality woolen fabrics.

Listed below are some of the many advantages of the Newport News Card which has been tested and proven in two years of actual operation:

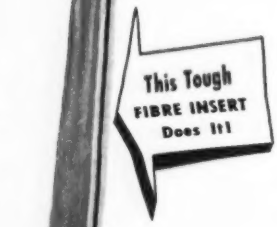
1. **Large doffers for better carding, resulting in stronger yarns at higher production rates plus less frequent machine outage for stripping.**
2. **Greater yield through minimum loss of stock.**
3. **Thorough blending, effecting better manipulation and more economical use of stock.**
4. **Wide range of speed adjustments at all points enabling the machine to accommodate all types of materials and make roving from the coarsest to the finest counts.**
5. **Carefully machined rolls, accurately mounted, permitting uniform close setting of workers and strippers.**
6. **Two intermediate side draw feeds which will handle long or short fibres.**
7. **Feed hopper of large capacity with a very accurate weighing mechanism.**
8. **Low overall height for unobstructed vision over the machine and ready removal of workers and strippers.**
9. **Special design features of the tape condenser for positive and even division of the web; tapes do not steal from each other.**
10. **Two hundred good ends for fine yarns from 80 inches width.**

Write for illustrated circular or other details.

NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY

NEWPORT NEWS, VIRGINIA

3 TIMES THE WEAR



Designed especially for today's high speed operating conditions, patented Super-Stroke Picker Sticks last three times as long as ordinary sticks. Norris' shock resisting vulcanized fibre insert is bonded under heat and pressure and will never separate from the wood. This construction gives maximum resistance to splitting and warping.

NORRIS
Super-Stroke
PICKER STICKS

Available in styles and sizes for all looms. A trial order will convince you of Super-Stroke superiority.

NORRIS BROS.
GREENVILLE, S. C.

will have a clearer idea of what the Government expects of us—if the example set by the Air Material Command is followed.

This branch of the armed forces recently issued a pamphlet to all its writers telling them how to write plain English. It's called "Gobble-De-Gook Or Plain Talk?"

If you think your company is safe from Gobble-De-Gook, take a second look at some of your own specifications, foremen manuals, union contracts, and interoffice communications. Bet you will want to get out a pamphlet like the one published by the Air Material Command.

Sales Facts for Wage Earners. We know only too well that when sales stop, our plants shut down. But our workers do not always seem to realize this relationship. If they did, they might better appreciate the front-office brains—the importance of advertising, sales promotion, packaging and so on—and the importance of quality of product and service.

Link-Belt, of San Francisco, however, explains these facts to its workers in its company magazine. In each issue there is a chart called "How's Business". The chart plots sales results against sales quotas. An accompanying editorial comment explains what is happening to the sales and profit picture.

Lay Gear Formula

(Continued from page 137)

With the new method of calculating, the gear needed figures as $28 \times (0.5 \div 1.0)^{0.802}$, giving 17.7 or 18 teeth needed. And by using the alignment chart (Fig. 2), we also obtain 18 on column B when we line our rule from 2.0 on column R (1.0 ÷ 0.5) to 28 on column A.

Thus, we have a difference of 11% between the results obtained through the two basic methods.

EXAMPLE 2

Let us assume we desire to make 2.50 hank roving from carded cotton on an 8x4 intermediate frame. What lay gear should we use when the lay constant is 380?

From Table 1 (Roving Coils per Inch), we find the value of coils per inch for 2.50 hank roving to be 15.3. The lay gear needed is calculated as usual: Lay gear = lay constant divided by coils per inch. As a result (380 ÷ 15.3), the lay gear needed has 24.8 or 25 teeth.

Now, with a 25-teeth lay gear on, let us suppose it is desired to change

PRECISION
TWIST TESTERS

For Determining Turns per Inch in Continuous Filament or Spun Singles and Ply Yarns

For Determining Take-Up Due to Twist in Filament and all Types of Plied Yarns

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ACCURACY - SPEED
EASE OF OPERATION

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Write for literature and prices

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Hoboken, New Jersey

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2 in 1
SULPHUR COLOR
DEVELOPER

DEVELOPS AND
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- Removes bronziness from blacks
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Give it a trial
The Results are STARTLING

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Get More Production

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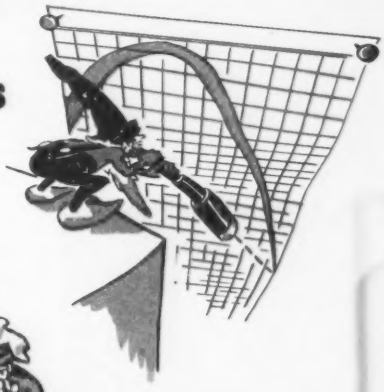


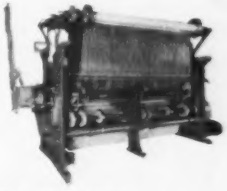
. . . Get More Profits

. . . with the

Kidde Knitter!

If you make any of the fabrics shown in the illustration (or a wide variety of other fabrics), here's good news. The versatile Kidde Knitter can *double the production rate of preway Raschell machines* on most fabrics and patterns. This means that costs go *down* . . . production and profits go up.

The Kidde Knitter features rigid, precision construction . . . simple, fool-proof operation that lets one operator handle four machines . . . an improved needle bar movement . . . a chain drum drive which permits intricate pattern work to be run at high speeds.



Why not find out how the Kidde Knitter can make more money for you? Write for complete information today.

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

 For more information, write direct or use Reader Service post card.

I.H.E. RESIN CURING MACHINES

The high temperature and wide heat range required for the curing of resins is met by the I. H. E. Curing Unit which has the ability to maintain any desired temperature up to 450 F. Cloth is heated to control point almost immediately upon entering the curing chamber. Direct firing by oil or gas accomplishes clean, efficient heating. Forced exhaust removes the resin fumes.

I.H.E. CLOTH DRYERS

The I.H.E. Cloth Dryer is well constructed and compact, requiring a space only 14 ft. by 8 ft. by approximate width of cloth. Evaporating capacity for this size is 900 pounds per hour. The machine is recirculating type, can be fired with either gas or oil, and requires no steam from your boiler. Gives increased production without additional labor costs. Similar machines of other capacities can also be furnished.

Write for complete information and specifications.

INDUSTRIAL HEAT ENGINEERING CO.
Textile Drying, Curing and Singeing Equipment
121 CLEVELAND ST. • GREENVILLE, S C

from 2.50 hank roving to 3.0 hank roving. What lay gear should be used?

The lay gear may be calculated as before. From Table 1, we find that coils per inch for 3.0 hank roving are 17.3. Lay gear thus equals 380 ÷ 17.3, or 22 teeth.

HOW TO USE THE NOMOGRAM

If desired, the required lay gear could be calculated from the known roving number and lay gear by using the alignment chart without using the lay constant. This chart will function for any roving-frame gearing if lay gear equals lay constant divided by coils per inch. In the chart, column R equals the finer roving number divided by the heavier roving number. Consequently, in this example, 3.0 ÷ 2.50 gives 1.20 on the R ratio column.

From the alignment chart, connect R = 1.20 on Scale R and the present lay gear, 25 teeth, on Scale A; read 22 teeth required on Scale B. It should be noted that in using the alignment chart, the required lay gear is found on Scale B if the roving is being changed from heavy to light, and on Scale A if the roving is being changed from light to heavy.

New Dyes and Chemicals

(Continued from page 158)

temperature to about 100 to 110° F., and enter 200 to 300 lb. of bagged goods. Scour at this temperature for 10 min. Acetate dyestuffs, previously well dispersed in warm water and a little Teepol 410 are then added to the dyebath, preferably through a fine sieve. The temperature is raised to 175° F., and dyeing is continued at this temperature until the desired shade is reached. The liquor is then gradually cooled by the addition of cold water. The goods are then well rinsed before they are given anti-snag finishing treatments.

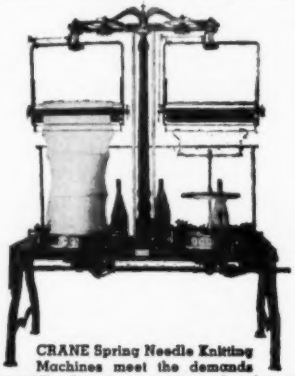
To request further information, use the card in the Reader Service dept.; refer to D-2.

Monsanto Price Reduction

A 24% reduction in the price of Dyefixative 105, a direct-color fixative for rayons and cottons, is announced by the Merrimac Div., Monsanto Chemical Co., Everett, Mass.

E. W. Gamble, Jr., textile-chemicals director of the Merrimac Div., said that, effective immediately, Dyefixative 105 will be delivered at 30¢ per lb. in carload lots and 40¢ per lb. in 500-lb. barrels. The product is sold to the mills to provide fastness properties of selected direct colors.

1870 CRANE 1950
SPRING NEEDLE KNITTING MACHINES
Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

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HIGH SPEED COP WINDER
For
COTTON • JUTE
WOOL • FIBER
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DISC & FINGER TENSIONS
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ASSEMBLIES

SEND US A SAMPLE OF YOUR YARN TO WIND
WRITE FOR CATALOG
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YOU CAN SEE WHY

Wyandotte "high-light" Kreelon leaves no residue*

Textile fibers can absorb appreciable amounts of certain detergents which cannot be removed by ordinary rinsing. Also any insoluble material introduced in the processing bath may remain in the fibers.

This residue affects the handle of the fabric. It may affect subsequent finishing operations, alter colors and produce odors.

That's why it's a good idea to use Wyandotte "high-light" Kreelon. This superior detergent dissolves more quickly, is more soluble than most other detergents, and forms no insoluble water hardness complexes. It makes a clear, water-white solution. These qualities may be strikingly demonstrated by dissolving samples of Kreelon and other detergents in separate beakers of water — and holding them up to the light. Note the clarity of the Kreelon solution. Compare it with the hazy, "muddy" appearance of the other detergent solutions.

Kreelon is strongly recommended for textile scouring, dyeing and bleaching operations. It provides excellent detergent, wetting, penetrating, and rinsing properties in hard and soft water, in alkaline and acid media. Its performance is guaranteed by a three-way detergency test. Write us today for complete data on the properties and applications of Wyandotte "high-light" Kreelon.

WYANDOTTE CHEMICALS CORPORATION
Wyandotte, Michigan ***Offices in Principal Cities***
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SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE • CHLORINE
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DICHLORIDE • AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

Wyandotte
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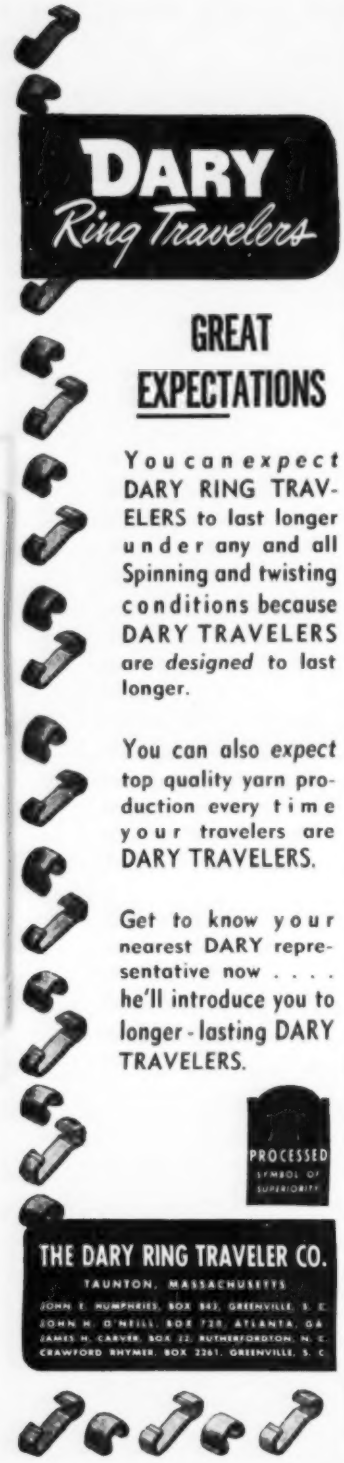
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GREAT
EXPECTATIONS
You can expect DARY RING TRAVELERS to last longer under any and all Spinning and twisting conditions because DARY TRAVELERS are designed to last longer.
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Get to know your nearest DARY representative now . . . . he'll introduce you to longer-lasting DARY TRAVELERS.
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CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

Books of Interest

THE WHITIN MACHINE WORKS SINCE 1831, A Textile Machinery Company in an Industrial Village by Thomas R. Navin; Harvard University Press, Cambridge 38, Mass.; cloth, 654 pages, $6.50.

Mill men interested in the past history of our industry will find this intensely interesting book a "natural." It is well written, well documented with facts, names, and incidents, and well worth delving into. In it, one gets behind the scenes in one of America's best known textile-machinery manufacturers, from the beginning of the family enterprise when the Whitin Co. in 1831 first made a picker for sale based on a design developed by John C. Whitin, to 1946 when the Whitin management was turned over to non-family executives for the first time.

Whitin has been one of the mere handful of early cotton textile-machinery manufacturers to survive the ravages of time and competition. During those 115 years the Whitin machinery interests were headed by only four men, all of them members of the closely knit family group. How from headquarters in Whitinsville, Mass., without outside financial aid, these four men—John C. Whitin, Josiah Lasell, Chester W. Lasell, and E. Kent Swift—were able to advance the fortunes of the enterprise through depressions and booms, amid new inventions and new competition and a new expanding Southern market, through wars and the final involuntary sloughing off of village paternalism in 1946, is the thread of the story.

Author Navin has written a warm portrayal of "a company," one of a series undertaken by the George F. Baker Foundation, Graduate School of Business Administration at Harvard. The Whitin story is the second one about a textile concern, out of 15 completed so far. Pepperell Mfg. Co. was the first [see TW, Oct., '49, page 250], and a history of Saco-Lowell Shops is scheduled to appear next. They are all three "musts" for anyone who would understand the phenomenon and genius of American textile enterprise.

FABRIC DEFECTS, Case Histories of Imperfections in Woven Cotton and Rayon Fabrics by J. B. Goldberg; McGraw-Hill Book Co., 330 West 42nd St., New York 18; cloth, 371 pages, $6.

Here, for the skilled technician, mill man, dyer, or finisher—for anyone who wants a better understanding of fabric imperfections—is a practical guide packed with actual case histories of defects in

HELPFUL SOURCE . . .

of Buying Information

As Textile Engineer at the Spartanburg, South Carolina office of Lockwood Greene Engineers, Inc., Mr. Thomas O. Ott, Jr. makes good use of McGraw-Hill's Textile Catalogs.

This valuable source of buying information on all types of textile machinery, equipment, supplies and services has been, in Mr. Ott's own words:

". . . most helpful in locating machinery manufacturers."

If PRE-FILED TEXTILE CATALOGS is not available for buying reference at your mill, write to McGRAW-HILL CATALOG SERVICE, 330 West 42nd St., N.Y. 18., N.Y. There is no charge to qualified users.

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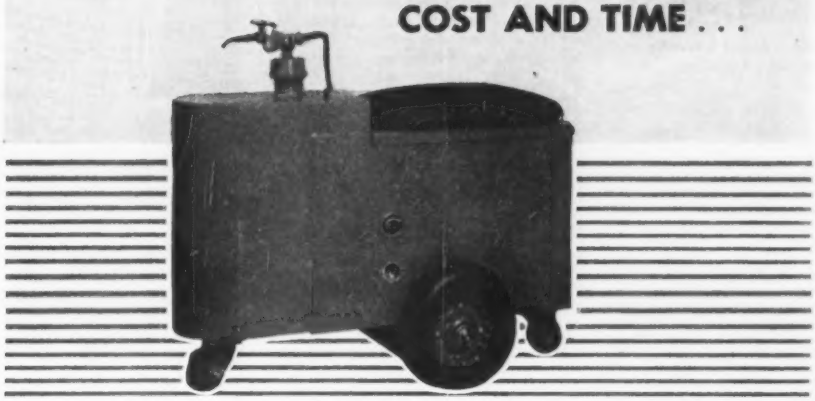
WE OFFER YOU UP TO 63% SAVINGS ON SPINDLE OILING COST AND TIME . . .



EVERY DAY MILLS ARE REPORTING SAVINGS OF 50% TO 70% ON COST OF SPINDLE OILING WITH THE BROWN DYNALUBE SPINDLE OILER. REDUCES WORKING FATIGUE. MAKES AN EASIER AND CLEANER JOB OF OILING. OPERATES ON AUTOMOTIVE BATTERY. NO DANGER IN OPERATING. NO TRAILING WIRES OR HOSE. BUILT-IN CHARGER. RECHARGE OVERNIGHT. 5 GALLON CAPACITY. DISPENSES 1 PINT PER MIN. OR MORE. WILL EASILY PAY FOR ITSELF IN 6 TO 8 WEEKS OF OILING TIME.

Please send free literature and price list.
( ) We would like to have a free demonstration made in our plant.

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Progressive textile plants everywhere are becoming more conscious of the fact that trouble-free and continuous production depends on correct humidity. Be sure of proper records of the conditions in your plant in order to keep the quality and quantity of the product high. Bendix-Friez instruments can give you these all-important records.

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Portable Humidity and Temperature Recorder, Model 160

3" x 5" charts, 10 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.

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The foremost relative humidity recorder for laboratory, factory, and office use. Scientifically designed for accuracy and dependability.

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textile materials. Also given are explanations of the contributing factors and suggestions for analyses.

Superb original photomicrographs stud the pages, illustrating fabric-manufacturing defects from raw fiber through weaving and on into dyeing and finishing mistakes. Fabric constructions and types of finishes are included in each instance. The making of fabric-defect analyses, and the laboratory equipment necessary, are discussed in a final chapter. A glossary of terms, reference bibliography, appendix, and index complete the survey nicely.

PERSONNEL, MANAGEMENT, AND PRODUCTION Series of Booklets by American Management Assn., 330 West 42nd St., New York 18; 50¢ to $1.25 each.

These booklets each consist of from three to five papers or discussions that were given at AMA conferences during the past year or so. Recently issued are Nos. 128 on employee development, 129 on personnel administration, 130 on industrial medicine and psychiatry, and 133 on pensions and fact-finding; Nos. 145 on management communication, 146 on technological development, 147 on selling-cost reduction, and 148 on pension planning; and Nos. 185 to 192 on production efficiency, budget controls, handling personnel in a changing economy, incentive plans, unions in production management, improving efficiency, responsibility for profits, and management's stake in the welfare issue. Textile points of view are well represented in several of the booklets.

SOUTH CAROLINA, A Location for the Woolen and Worsted Industry by James A. Morris; Research, Planning, and Development Board, State of South Carolina, Columbia, S. C.; paper, 53 pages, no charge.

What South Carolina can offer to woolen and worsted manufacturers in sites, labor, and costs is graphically and lucidly presented in this frankly partisan, yet dispassionate, booklet. The methods of gathering and tabulating statistics as instruments of enticement should be noted by other States interested in woolens and worsteds, and perhaps adopted as standard procedure all up and down the Atlantic seaboard. Plant-location decisions would then be easier for everyone.

TUFTED BEDSPREADS, Commercial Standard CS 162-49 by Commodity Standard Div., Office of Industry and Commerce, U. S. Dept. of Commerce; Superintendent of Documents, Washington 25, D. C.; paper, 5¢.

This booklet on tufted-bedspread standards discusses such things as plus and minus tolerances, methods of test, means of identifying material that conforms to standard, acceptors, and membership of the standards standing committee. Quality requirements for backing and tufting yarns, color fastness, and other elements of quality are not included in this 1950 standard; but are slated for any expansion that may at some later date follow this initial attempt at standardization.

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Mellor Bromley
Write for descriptive leaflets of the Mellor Bromley Interlock and many other top line machines.
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Pullovers and cardigans—"Superloop" underwear fabric—Jacquard shaped vests with draw thread and web—Jacquard outerwear—Elastic web and foundation garments—Interlock—Jacquard shaped underwear—Dress fabrics—Rib fabrics and rib ends—Multifeeder plain fabrics.

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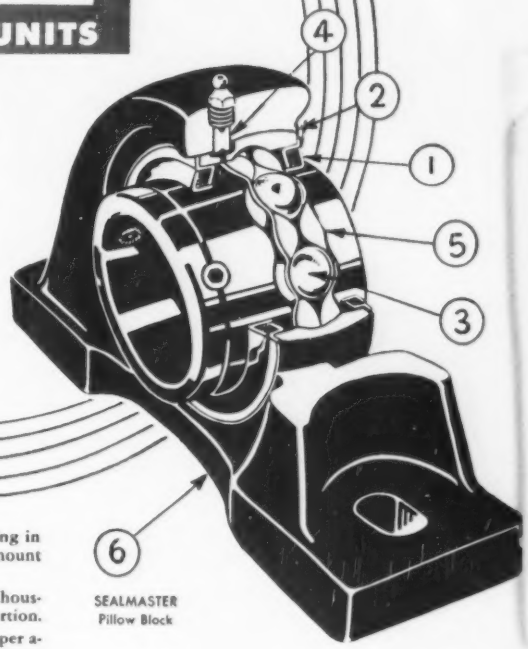
BALL BEARING UNITS

Good bearing performance...quiet operation... long life and low maintenance are all results of the combination of design and construction features found only in SEALMASTER units. Fans, blowers and all types of similar equipment perform better, last longer and give customer satisfaction when equipped with SEALMASTERS.

Check the list below and then write us for a copy of catalog 845 . . . it gives complete details on the entire SEALMASTER line, including dimensions and load ratings.



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Pillow Block

SPECIFICALLY, *Here's W'hy SealMasters Excel:*

1. **PERMANENTLY SEALED!** Felt-lined steel flinger rotating in labyrinth prevents entry of dirt and retains proper amount of lubricant.
2. **SELF-ALIGNING!** Bearing unit, with seals independent of housing, can align itself in any direction without seal distortion.
3. **PRE-LUBRICATED!** Bearing chamber is filled with proper amount of lubricant before shipment from SealMaster factory.
4. **NO HOUSING WEAR!** Patented locking pin and dimple prevent rotation of outer race in housing. This eliminates housing wear...permits shaft alignment and positions unit for relubrication.
5. **FLOATING RETAINER!** Ball retainer is designed to float on ground inner surface of outer race. Trap lubricant and prevents churning.
6. **HOUSING DESIGN!** SealMaster's cast housings combine rigid, one-piece construction with smooth streamlined appearance.

16th SOUTHERN TEXTILE EXPOSITION
October 2nd thru 7th, 1950
Textile Hall, Greenville, S.C.

See SEALMASTER Ball Bearing Units on display at MOFFATT BEARINGS CO. Booth No. 237.

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MFG. CO.

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Factory Representatives and Dealers in All Principal Cities

THIS MAN WOULDN'T NEGLECT

A MACHINE IN HIS PLANT

...yet he hasn't had a Chest X-Ray!

He checks every piece of mechanical equipment he owns for wear, lubrication, efficiency.

Yet he fails to take the simple precaution of a Chest X-Ray to make sure he does not have tuberculosis. *Not because he's opposed to the X-Ray. Simply because he is not sufficiently informed—or just hasn't taken the time and trouble, or does not realize the seriousness of the problem.*

A Chest X-Ray is the first step toward detecting tuberculosis in its early stages. And in its early stages it can be cured with the least loss of time from work.

So, if you're the man above, that one simple reason should make you get your Chest X-Ray—*today*. But listen, see how serious this really is:

Between the ages of 15 and 34, tuberculosis leads all other diseases as a cause of death—although at no age are you safe from TB. Yet, if everyone does his part by getting a Chest X-Ray periodically, and the majority of cases thus discovered are followed up, we can eliminate TB entirely as a public health hazard!

Will you do your part today? Get a Chest X-Ray. It may mean your life!

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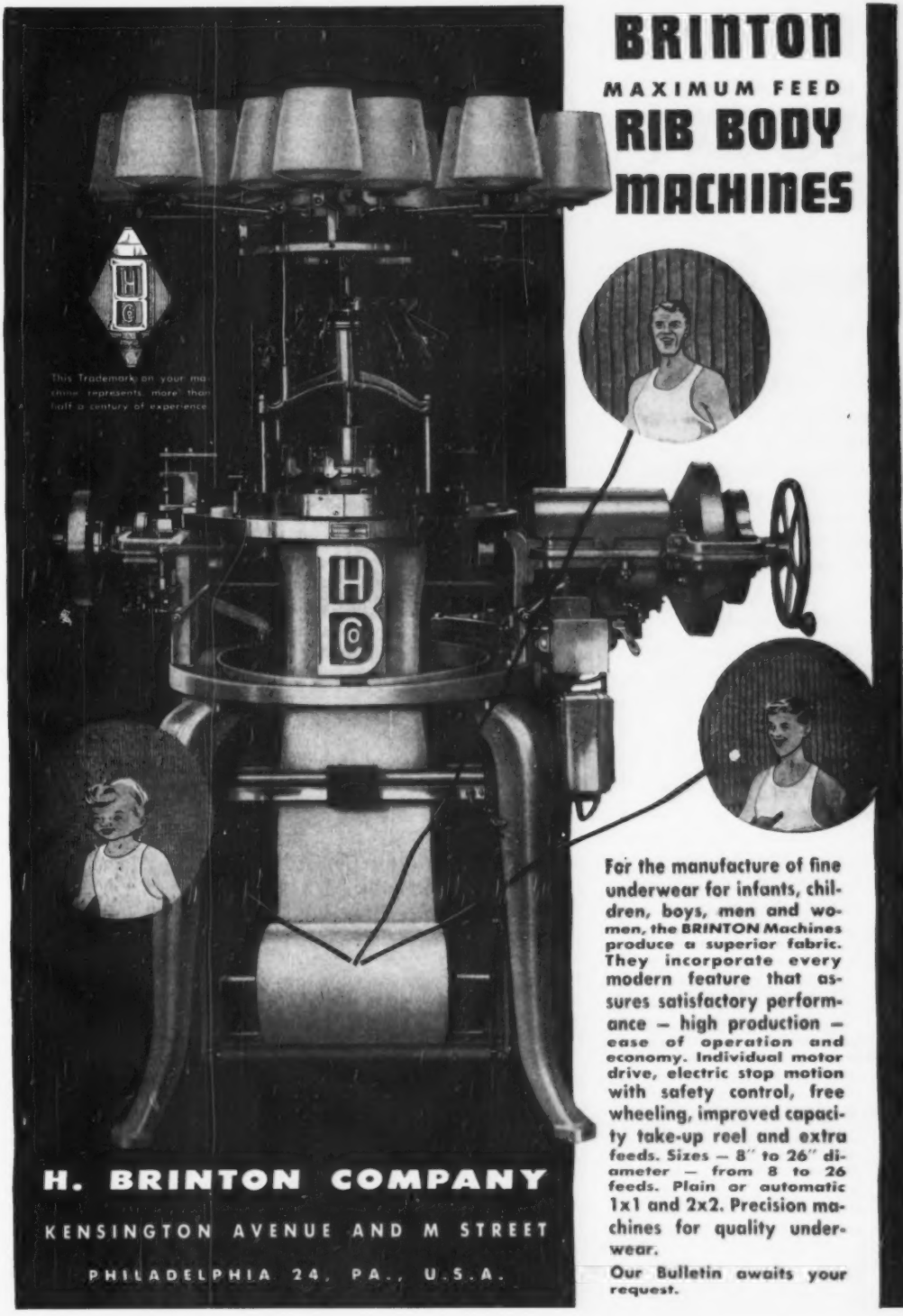
BRINTON

MAXIMUM FEED RIB BODY MACHINES



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KENSINGTON AVENUE AND M STREET

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For the manufacture of fine underwear for infants, children, boys, men and women, the BRINTON Machines produce a superior fabric. They incorporate every modern feature that assures satisfactory performance — high production — ease of operation and economy. Individual motor drive, electric stop motion with safety control, free wheeling, improved capacity take-up reel and extra feeds. Sizes — 8" to 26" diameter — from 8 to 26 feeds. Plain or automatic 1x1 and 2x2. Precision machines for quality underwear.

Our Bulletin awaits your request.

INTERFACE CHEMISTRY

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TEXTILES

merits your most earnest consideration.

Literally, the fibres which make up the yarns are all surface.

The weave is a factor. A loosely woven fabric is easier to deterge than a tightly woven one.

WASHABILITY

is determined not only by the effectiveness of soap or detergent, but also by the washing equipment.

Practically all textile operations are improved by the PROPER use of SUITABLE surface-active agents in the bath.

We have done extensive, applied research in soaps and synthetic detergents for all types of textiles. We have come up with many practical and profitable solutions.

IF YOU HAVE A

textile problem, we cordially invite you to discuss it with us —no obligation.

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News of the month

Automatic Argyle Process. An "edge-framing" process that duplicates intricate hand-knit effects in men's argyle socks at a mass-volume price has been developed on a circular-knit machine and patented by Standard Hosiery Mills, Inc., Burlington, N. C., a division of Chester H. Roth Co., Inc., New York. Diamonds are set in with sharp definition on lightweight cotton socks; and production on the automatic machine is 12 doz. per day in contrast to the one dozen per day possible with heavy yarns on hand-framing machines. A lock-stitch movement replaces the conventional interlocking stitch and thus prevents coarse ends from pulling out around the set-in diamond. Over $250,000 and two years' time have gone into the development of the process.

W & S Loom Doing Well. Production on the Warner & Swasey loom is double that of conventional looms, L. O. Poss, president of Cleveland Worsted Mills, Cleveland, Ohio, said recently. Output averages 140 yards of worsted cloth every 24 hr., and quality is reported 50% better. The firm has ordered 100 more looms from Warner & Swasey for as quick a delivery as can be made. The machine-tool company is producing looms at a rate of 15 per month, at a cost of about $8,000 each, as compared to the $2,000 for the conventional-type loom. Three other mills whose orders have been on the books for a long time are to receive the next batch of weaving machines, going out in batteries of 10 to 25. Warner & Swasey has made it known that in no event is the production of its looms, or Pacific converters (5 per month) and pin drafters (15 per month), going to be carried out at the expense of its production of regular machine tools.

Cotton-System Report. Over the last ten years, cotton-system mills have continued to lose spindleage.

TEXTILE CALENDAR

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 2 to 7, 1950.

International Knitting Machinery and Accessories Exhibition, Granby Halls, Leicester, England, Oct. 11 to 21, 1950.

North Carolina Cotton Mfrs. Assn., annual meeting, Carolina Hotel, Pinehurst, N. C., Oct. 12 and 13, 1950.

Southern Textile Association, Northern N. C.—Virginia Div., High School, Draper, N. C., Oct. 14, 1950.

National Safety Congress and Exposition, Stevens and Congress Hotels, Chicago, Ill., Oct. 16 to 20, 1950.

Second International Silk Congress, New York, Oct. 16 to 21, 1950.

ASTM, Committee D-13, New York, Oct. 18 to 20, 1950.

Green Mt. Textile Overseers Assn., annual meeting, Hotel Berwick, Rutland, Vt., Oct. 21, 1950.

Packing Institute, annual forum, Hotel Commodore, New York, Oct. 23 to 25, 1950.

National Business Show, Grand Central Palace, New York, Oct. 23 to 27, 1950.

Carded Yarn Assn., annual convention, Carolina Hotel, Pinehurst, N. C., Oct. 26 and 27, 1950.

AATCC, R. I. Sect., Providence Engineering Society Hall, Providence, R. I., Oct. 27, 1950.

AATCC, Philadelphia Sect., meeting-in-miniature, PTI, Germantown, Pa., Oct. 28, 1950.

AATCC, Piedmont Sect., annual meeting, Charlotte, N. C., Oct. 28, 1950.

AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., Oct. 30, 1950.

Pennsylvania Society of Training Directors, annual conference, Community Building, Hershey, Pa., Nov. 1 and 2, 1950.

STA, South Carolina Div., Clemson, S. C., Nov. 4, 1950.

STA, Eastern Carolina Div., Erwin Mills Auditorium, West Durham, N. C., Nov. 11, 1950.

TRI, annual meeting, Waldorf-Astoria Hotel, New York, Nov. 16 and 17, 1950.

AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., Nov. 17, 1950.

Carpet Institute, annual meeting, Waldorf Astoria Hotel, New York, Nov. 21, 1950.

ASME, Textile Div., annual meeting, Statler Hotel, New York, Nov. 26 to Dec. 1, 1950.

National Exposition of Power and Mechanical Engineering, Grand Central Palace, New York, Nov. 27 to Dec. 2, 1950.

STA, Piedmont Div., Hotel Charlotte, Charlotte, N. C., Dec. 2, 1950.

AATCC, Southeastern Sect., Atlanta, Ga., Dec. 9, 1950.

AATCC, New York Sect., Hotel New Yorker, New York, Jan. 12, 1951.

Plant Maintenance Show and Conference, Auditorium, Cleveland, Ohio, Jan. 15 to 18, 1951.

National Cotton Council, annual meeting, Hotel Buena Vista, Biloxi, Miss., Jan. 22 to 24, 1951.

Air Conditioning Exposition, Commercial Museum, Philadelphia, Pa., Jan. 22 to 26, 1951.

AATCC, New York Sect., Hotel New Yorker, New York, Feb. 23, 1951.

ACMI, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va., March 29 to 31, 1951.

AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., March 30, 1951.

International Textile Exhibition, Parc des Expositions, Lille (Nord), France, April 28 to May 20, 1951.

National Assn. of Hosiery Mfrs., annual meeting, Claridge Hotel, Atlantic City, N. J., April 30, 1951.

Knitting Arts Exposition, Atlantic City Auditorium, Atlantic City, N. J., April 30 to May 4, 1951.

National Materials Handling Exposition, International Amphitheater, Chicago, Ill., April 30 to May 4, 1951.

AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., May 4, 1951.

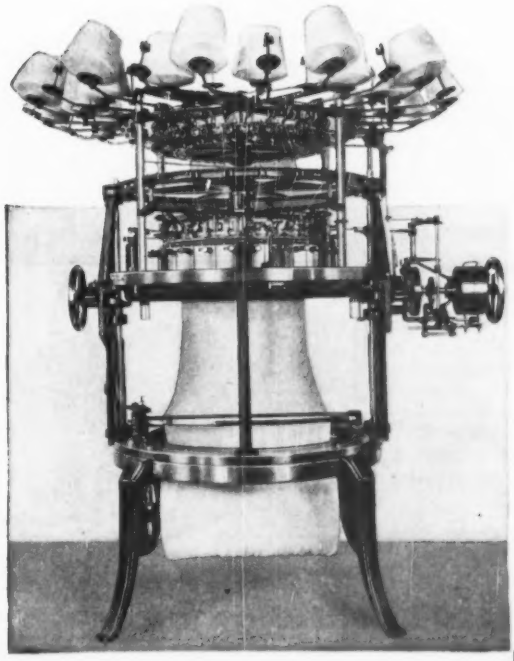
Canadian International Trade Fair, Toronto, Ontario, May 28 to June 8, 1951.

ASTM, annual meeting, Atlantic City, N. J., June 18 to 22, 1951.

American Society for Quality Control, annual convention, Hotel Cleveland, Cleveland, Ohio, May 23 and 24, 1951.

AATCC, annual convention, Statler Hotel, New York, Oct. 18 to 20, 1951.

A GREAT OAK...



WE at Wildman have for many years manufactured standard machines that cover the general knitting field. SPECIAL PROBLEMS, however, frequently arise that require variations in design of detail. Our engineers are prepared to adapt these machines to accord with them.

The WILDMAN 30" INTERLOCK MACHINE for SPORTSWEAR, UNDERWEAR, DRESS FABRICS and OUTERWEAR, is an example of Wildman's versatility in production ... This machine is built in a special size frame to provide ample width in the take-up for the exceptionally wide fabric produced ... Popular sizes 26" and 30". Also other sizes from 15" up. Furnished in all cuts up to 24 needles per inch. Write for complete information.

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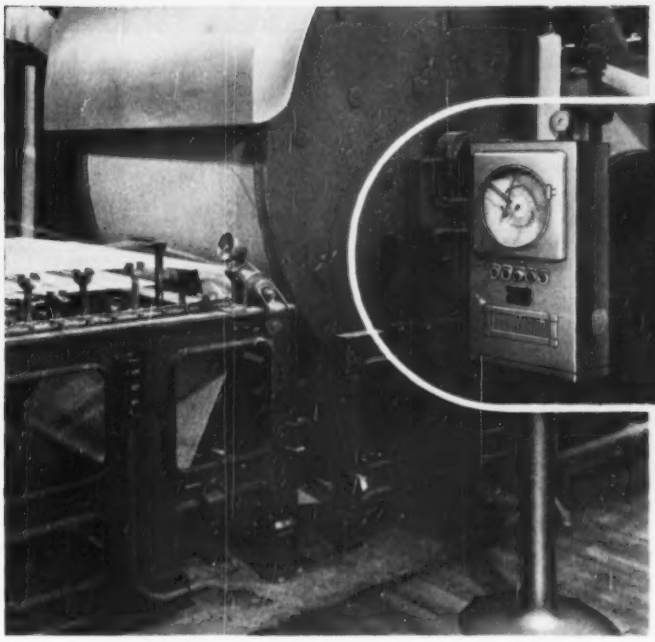

Barber-Colman Moisture Content Control as installed in the slasher room of Cone Mills Corporation, Pineville Plant, Pineville, N. C.

Electronic *MOISTURE CONTENT CONTROL

Barber-Colman *all-electronic* units are applicable to all types of warps processed on slashers having any type of variable-speed drive. This automatic Moisture Content Control is a proportioning type instrument, equipped with automatic reset to control at a constant level so there is no "hunting" in the changes of the variable-speed drive. Let your Barber-Colman representative show you how to obtain —

LOWER COSTS
GREATER PRODUCTION
BETTER PRODUCTS

BARBER-COLMAN ENGINEERING SERVICE IS BACKED BY YEARS OF EXPERIENCE IN TEXTILE PROCESS CONTROLS

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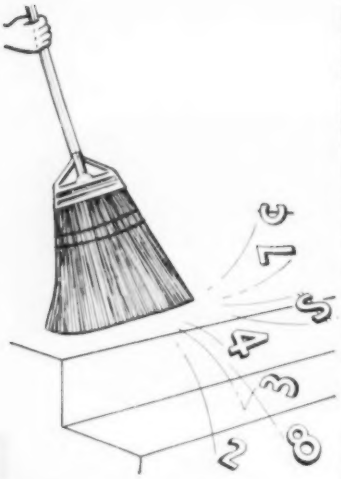

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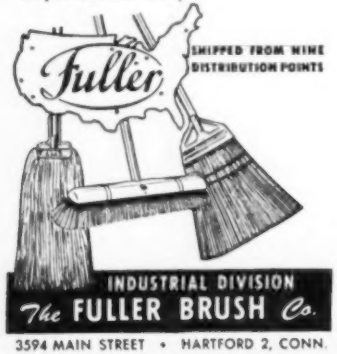
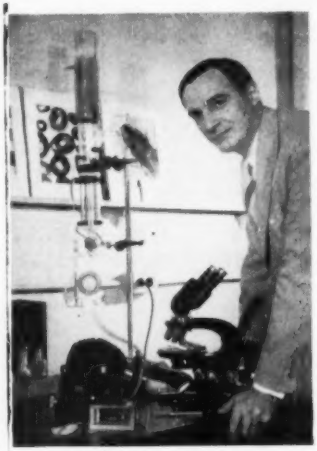


INDUSTRIAL DIVISION
The FULLER BRUSH Co.
3594 MAIN STREET • HARTFORD 2, CONN.
In Canada: Fuller Brush Co., Ltd., Hamilton, Ont.

The net loss from Jan. 1, 1940, to Jan. 1, 1950, was 1,599,000 spindles, with a total of 23,341,000 in place last January. New installations, additions, and replacements of spindleage show a constructive trend. During 1949 they totaled 858,623 new spindles, the largest single increase in any year since 1925. Mill operations and woven-cloth production (cotton only) in 1949 were the lowest for any year since 1940, at which time the U. S. also had 17,250,000 fewer inhabitants. Cotton consumption for 1949 was 7,875,000 bales, 13.4% less than 1948, and slightly short of the 1940 consumption of 8,053,000 bales. Only a small part of last year's production loss can be attributed to the 60,000,000-yd. drop in export yardage from 1948's 940,455,000-yd. total, for U. S. 1949 export volume exceeded all previous years except 1947 and 1948. For 1950 there is a different story, however, with a total figure through December looming up as under 500,000,000 yd. The above figures were among those compiled for its annual survey of cotton textiles by the Association of Cotton Textile Merchants of New York.

Improved Cottons. New triple hybrid cottons with tensile strengths up to 120,000 and 130,000 lb. per sq. in. as compared with 80,000 lb. for conventional cottons may be made commercially available three or four years earlier than originally anticipated as a result of a new seed-breeding program initiated this summer at Iguala, Mexico, the National Cotton Council says. Normally about ten years are required to stabilize new combinations in cotton, but the process is faster under tropical conditions. Work on improving American-Egyptian long-staple cotton will also go along faster at the experiment station at Iguala, located about 125 miles south of Mexico City.

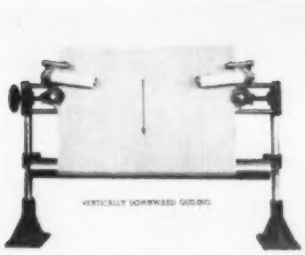
Wool-Importation Plan. Procurement of wool cloth and other military items requiring wool should be made through orders projected as far ahead as possible, the Boston Wool Trade Assn. recommended recently. The trade association proposes, if it becomes necessary to create a stockpile, that percentage of all wool of grades, as specified by the government and imported into the country, be purchased on arrival by the government from the importer at a figure representing all costs plus a nominal fee to the importer, suggested at 2.5%. Percentages of importations under this plan would be announced by the government from time to time, effective afterwards as commitments by the government to purchase such percentage of imports. During the last war the United States used 1,000,000,000 lb. of wool a year for both civilian and military purposes. In 1949 consumption was about 750,000,000 lb. The 1950-51 Australian wool clip is expected to total 1,261,400,000 lb., about half being available before Christmas and the balance in the spring. An additional 30,000,000 lb. is now becoming available from Montevideo. Prices continue to rise for the ultimate consumer in face of the over-all shortage.



DR. GEORGE L. ROYER was awarded the Olney medal Sept. 30 at the annual convention of the AATCC at Wentworth-by-the-Sea, N. H., for "outstanding achievement in the field of textile chemistry" during the past year. Dr. Royer, shown here at work at Bound Brook, N. J., is assistant director of application research in charge of physical-chemical research at Calco Chemical Div., American Cyanamid Co., and specializes in microscopy and spectrophotometry.

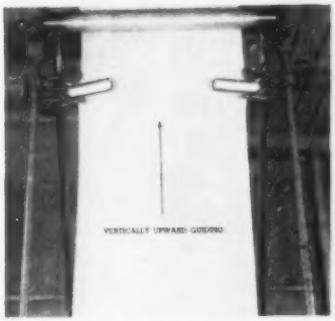
U. S. Wool Potential. The United States has the resources for a one-third increase in sheep production, and there is a ready market for the wool and lambs this added production would provide, the Dept. of Agriculture concluded in a recent report made by the Production and Marketing Administration and the Bureau of Agricultural Economics. Feed and forage resources that can best be utilized for sheep will carry 37,000,000 head, in contrast to the present low number of 27,000,000. Annual production of wool from the increased number of sheep would total 335,000,000 lb. In contrast, the yearly

UP⇧DOWN⇩ACROSS⇨OR ANY ANGLE⇘



Mount Hope

PRECISION GUIDERS



Accurately Control Lateral Alignment of Cloth Regardless of Feed Angle

POSITIVE BUT GENTLE CONTROL

This Stainless Steel Precision Guider is suitable for all types of fabrics. Positive but safe action controls lateral movement of cloth within extremely narrow limits. Purely mechanical — adjustable in operation — reversible rubber rolls — ball bearings — waterproof.

LOW MAINTENANCE — LONG LIFE

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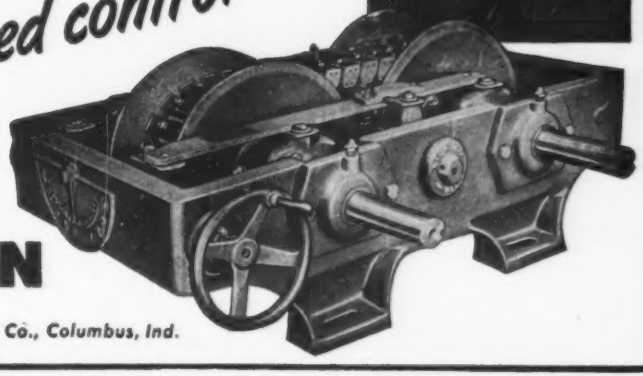

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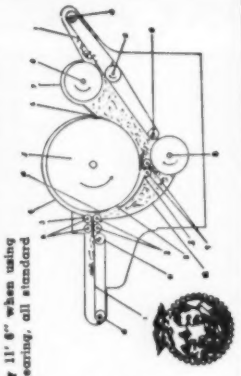
One cylinder does work of TWO! Double opening and cleaning on 1 cylinder. Eliminates extra cylinder, fans, dust rooms. Measures only 11' 6" when using 5' Apron. Weighs only some 2,500 lbs. Uses only 7½ H.P. motor. Cylinder, feed rollers, side shaft, gearing, all standard equipment. Equally successful on rayon, cotton. No damage to fiber.



HOW IT OPERATES

Employs set of double feed rolls (2) for first feed into cylinder; a cut-off (11) 12 inches from rolls drops stock on to a screen (8) carrying it to set of single feed rolls (8) and into cylinder again. This step is equivalent to second cylinder on similar machines. Another cut-off (6) delivers stock to second screen (8) and on to delivery apron carrying to receptacle. Complete process gives double opening and cleaning on one cylinder. Two machines may be worked in tandem, giving some results as 4 sections.

PAT. PENDING

On 30 Days Trial

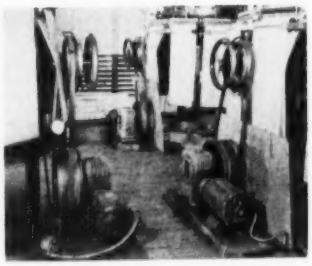
KIRKMAN and DIXON Machine Shop and Foundry GREENWOOD, S. C.

average consumption of wool in the United States during the 1950-54 period is expected to be from 675- to 725,000,000 lb. The figure will be much larger in the event of increased military needs.

Synthetics Keep On Gaining. Rayon and nylon have made marked inroads in the manufacture of men's clothing, analysis of figures released by the U. S. Bureau of the Census shows. For summer-weight suits, cuttings for the first four months of 1950 indicate that rayon and nylon accounted for 41% of the total, compared with 31% for the first four months of 1949. With cotton suitings remaining at about 9% for both years, suits of 25% or more wool lost to the same extent that synthetic-fiber suits gained, namely 10%. Rayon dress and sport trousers made up 52% of the total of this type of garment for the first four months of 1950, compared to 43% in 1949. Garments of 25% or more wool declined from 49% of the total in 1949 to 42% in 1950. **Cotton also** showed a loss in this category, from 8 to 6% of the total.

Brazilian Tire-Cord Plant. A $2,000,000 high-tenacity rayon tire-cord production unit is planned for the Brazilian firm, Companhia Nitro Quimica Brasileira, of São Paulo, to be integrated with the filament rayon and staple plant already operated by the Brazilian company. A contract for the building was recently negotiated between Dr. José de Moraes, president of Nitro Quimica, and Oscar von Kohorn, president of Oscar Kohorn & Co., Ltd., New York, whose firm in 1945 supplied the 20,000,000-lb. filament rayon plant to Nitro Quimica and in 1947 the 5,000,000-lb. staple-producing plant. The tire-cord machinery will be of a continuous type patented by Kohorn, and is expected to be in operation in about a year. Dollar savings to Brazil are expected to pay for the tire-cord machinery investment by 1954.

Lille Exhibition Filling Up. Space originally reserved for machinery manufacturers at the International Textile Exhibition at Lille, France, next April and May is already almost filled up, it was reported recently by George D. Boinet, exhibition representative for the United States, the West Indies, and Mexico. Among American textile-machinery manufacturers already listed as exhibitors are Crompton & Knowles Loom Works, H & B American Machine Co., Whitin Machine Works, Draper Corp., Foxboro Co., Armstrong Cork Co., Universal Winding Co., and Saco-Lowell Shops. All textile-producing countries of the world, about 45 in number, have been invited to exhibit their machinery, fabrics, dyes, and clothing. At least seven countries are building their own pavilions to present their textile products nationally. U. S. equipment manufacturers have been allotted a portion of the central machine-exhibition hall, probably the largest exhibition hall in Europe. Exhibition headquarters for the U. S. are at 10 Rockefeller Plaza, New York.



INDIVIDUALLY MOTORIZED rotary knitting machines at Winona Knitting Mills, Winona, Minn., give clear aisle space by means of a right-angle drive from individual motors through speed reducers, as shown above, made by Cone-Drive Gears, a divison of Michigan Tool Co. The reducers are roughly two-thirds the size of conventional reducers of the same power rating. Center distance of the gearing is only 3 in. Long gear life, resulting in reduced maintenance and down time, is reported in a three-shift operation, six days a week.

Burlap Market Tight. American users of Indian burlap are seeking to buy into next year instead of only one or two months ahead, Alexander Low, North American representative of the Indian Jute Mills Assn., reported at the first U. S. International Trade Fair recently concluded in Chicago, Ill. The United States has bought heavily of burlap goods, and spread of the Korean conflict would increase American demand for bags even further. By the end of this month Indian jute mills should be back on full time, after controls and allocations have been in force for about a year. Indian mills at capacity produce 150,000,000 yd. of burlap a year, of which U. S. manufacturers usually want 70,000,000 yd. U. S. firms would buy more now if they could.

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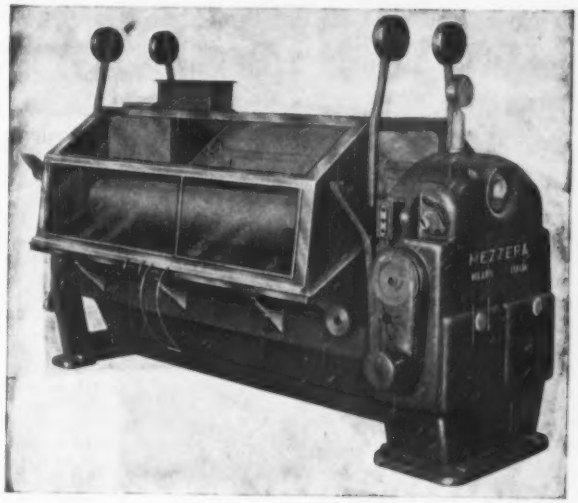
TENSIONLESS DYE JIG

- **Preferred for Delicate Fabrics**
- **Completely Automatic Reversing and Stopping**
- **Gradual Starting, Constant Speed**
- **Three Speed Changes**

Constructed in four widths:
43", 47", 67", 79"

All Working parts are stainless Steel
Totally Enclosed with Safety
Glass Cover

Short Term Delivery



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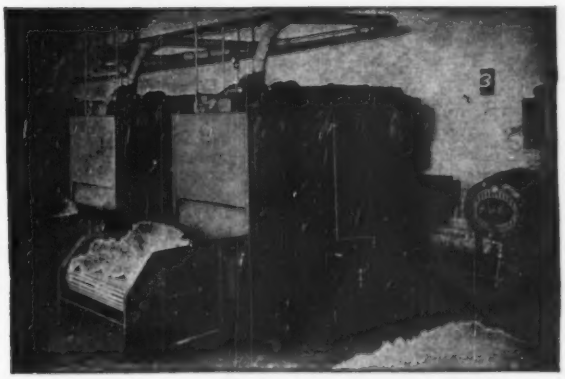
22 East 40th Street, New York 16, N. Y.

MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



● **MINEROL** is a prepared agent for conditioning textile fibres..a systematic Process of Spraying Natural and Dyed Raw Stock. ● **MINEROL** helps to separate long fibres from the short. It saves *good fibres* and prevents waste. It makes fibres more supple..more pliable. ● **MINEROL** provides *control* of conditions caused by static electricity. It protects the cards and preserves the wire. ● **MINEROL** prevents Dust and Fly..safeguarding health and insuring better working conditions. ● **MINEROL**..as a conditioner is more urgently in demand thru the increased use of staple Cut Rayon and its varied, combinations with cotton, wool and other fibres.

BRETON MINEROL PROCESS

BORNE SCRYMSER COMPANY

Originators of the BRETON MINEROL PROCESS for CONDITIONING FIBRE

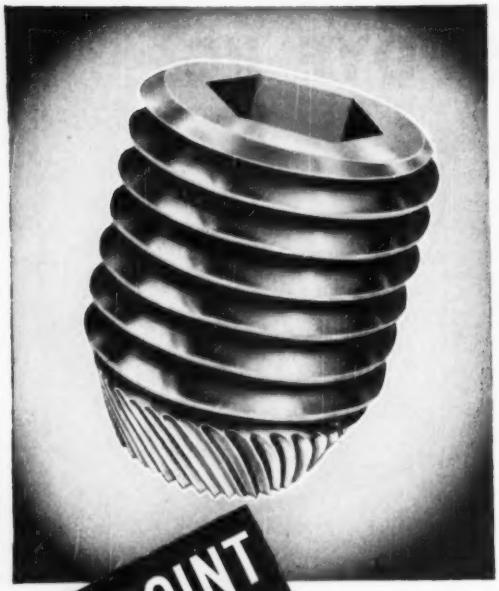
ELIZABETH N. J. Established 1874 CHARLOTTE, N. C.

NEW ENGLAND REPRESENTATIVES

A. M. KNIGHT, West Yarmouth, Mass. | W. M. DYNES, West Springfield, Mass. | S. T. DOUGLAS, JR., Westwood, Mass.

SOUTHERN REPRESENTATIVES

W. E. SMITH, Charlotte, N. C. | JOHN FERGUSON, LaGrange, Ga. | CHARLES KELLEY, Charlotte, N. C.



UNBRAKO

SELF-LOCKING HOLLOW SET SCREW
WITH
MONEY-SAVING KNURLED POINT
"WON'T SHAKE LOOSE"

Knurled Head Socket Cap Screws
Flat Head Socket Cap Screws
Self-Locking Socket Set Screws
Knurled Head Stripper Bolts
Precision-Ground Dowel Pins
Fully-Formed Pressure Plugs

See us at Booth 2434, Convention of National Metal Congress and Exposition, Chicago, Oct. 23 to 27.

-SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 35, PENNSYLVANIA

NEWS ABOUT Suppliers

Equipment Suppliers

Bullard Clark Co., E. H. Jacobs Northern Division, Danielson, Conn., has established a strapping department at its factory in Charlotte, N. C. Experienced workmen, new modern equipment, and a complete stock of leather are provided.

Crucible Steel Co. of America, New York, recently appointed David R. Meslang manager of its Seattle, Wash., branch. He has been with the firm since 1935.

Draper Corp., Hopedale, Mass., is enlarging both its East Spartanburg, S. C., plant and its Spartanburg warehouse. Over $250,000 will be spent expanding and equipping these facilities. Relocation of offices will accompany the manufacturing and storage expansion.

Emmons Loom Harness Co., Lawrence, Mass., has appointed W. H. Gibson its representative in Texas, Oklahoma, and Arkansas. He will be located in San Antonio, Texas. Cia. Anma. Hermes, Caracas, Venezuela, has been made Venezuelan representative of the firm, succeeding N. Marvez of Caracas.

Flexible Tubing Corp., Branford, Conn., is moving into its new 13,000-sq.ft. brick and steel plant at Guilford, Conn., next month. The three-year-old firm manufactures a retractable ventilating and conveying tubing for use on engines and furnaces.

Foster Machine Co., Westfield, Mass., is now stocking parts in Westfield for all Foster-Muschamp winding machines installed in the United States.

General Electric Co., Industry Div., Schenectady, N. Y., recently appointed J. David Wright assistant manager. He has been succeeded in his former position as manager of the industrial-engineering divisions by Frederic M. Roberts. Leonid A. Umansky has assumed the post of manager of engineering of the latter divisions.

EUGENE C. GWALTNEY, right, vice president of Saco-Lowell Shops, Boston, Mass., and Don Underhill, Eriez Mfg. Co., Boston representative, discuss the new Eriez ATOMagnet hump unit which is now being installed on standard Saco-Lowell opening-line equipment. Each unit has two of the tramp-iron separators.

Gould-National Batteries, Inc., became the new name of the National Battery Co. recently. The same sales and field engineering organizations that have been serving under the name of Gould Storage Battery Corp., Trenton, N. J., are now operating under the new name. Policies, management, and operation of the former two firms will remain the same.

Hyatt Bearings Div., General Motors Corp., Harrison, N. J., has made the following promotions: Alton H. Lundins to works manager in charge of all manufacturing and service operations at the Harrison and Clark Township plants; Robert R. Guempel to plant manager of the Clark Township plant; William H. Chapman to director of engineering; Martin A. Moore to administrative assistant to the general manager; and David B. Caminez to divisional comptroller.

Announcing...

General Mills FIBRSIZ

a new *wheat* starch for warp-sizing of viscose and acetate rayon fibres

● Check these advantages reported for General Mills FibRsiZ:

Better weaving performance. Used properly, General Mills FibRsiZ eliminates balling and fuzzing.

Lower softener (plastisizer) requirement. General Mills FibRsiZ is competitive in user's formula because of reduced need for expensive softeners.

Excellent rinsability. General Mills FibRsiZ's rinsing properties make it easy to remove from fabrics.

Stability under agitation. General Mills FibRsiZ has good viscosity—does not thin out under agitation. Also has no harmful set-back, or "gelation."

Smooth, flexible films.

New General Mills FibRsiZ is sold in 100 lb. multi-wall paper bags.

FREE SAMPLE!

We invite you to investigate how new General Mills FibRsiZ can improve *your* fabrics. For further information and free test sample—without obligation—write or wire—

General Mills, Inc.

Special Commodities Division

400 2nd Ave. So.
Minneapolis 1, Minn.

208 So. LaSalle St.
Chicago 4, Ill.

Room 2701, 80 Broad St.
New York 4, N.Y.

Scott Testers — Standard of the World

Only Scott Experts can properly service* Scott Testers

At our Providence factory, we have service personnel at all times ready for prompt repair, rebuilding and modernization of equipment shipped to us. In addition, travelling service personnel are available upon request, for in-plant adjustments and equipment certification.

SCOTT TESTERS INC. 95 BLACKSTONE STREET

*Registered Trademark

PROVIDENCE, R. I.

NEVER BEFORE

a direct humidifying system like this new

GRADUMATIC

A different, redesigned atomizer combined with a new idea, has developed the only system of direct humidification which **measures moisture output and adjusts it to demand.**

Instead of "off and on"; instead of "over and under" humidifying **Gradumatics deliver fog continuously.**

Certified Climate Psychrostat is judge; decides if a mere breath (2 pounds) will do . . . or as much as 16 pounds per hour.

Simple, rugged, non-adjustable, self-cleaning, Gradumatics continue to run without tinkering or calibration.

This new Gradumatic system is direct humidification at its best.

Write for Bulletin 450

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

NEWS ABOUT *Suppliers*

Hyster Co., Portland, Ore., recently named John J. O'Farrell management engineer in charge of methods engineering, inventory control, and IBM departments. Kirk Lowe is now pressed-metals engineer in the manufacturing-engineering department, and Harold R. Lucas, Jr., is assistant to the general sales manager.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn., recently elected its vice president and director, Hamilton Merrill, to be president, succeeding the late Robert R. Wason. Mr. Merrill became associated with the firm in 1920 as assistant works manager, and became successively works manager at Bridgeport, vice president, and director.

Newport News Shipbuilding & Dry Dock Co., Newport News, Va., has appointed Hooper-Green Co., Chicago, Ill., its Mid-West representative. The firm recently received a contract from Forstmann Woolen Co., Passaic, N. J., for nine additional wool cards after a successful two-year trial of the first Newport News card at Passaic.

DR. ROBERT REINER, founder and president of the knitting- and embroidery-machinery manufacturing plant at Weehawken, N. J., recently celebrated his 70th birthday. Born in Wuerttemberg, Germany, and educated there and in Switzerland, he installed the first Vomag embroidery machinery in the United States in 1903. His plant now embraces over 100,000 sq. ft. Other machines manufactured by the firm include automoitc bobbin and winding machines, tricot machines, Simplex machines, Raschel machines, Kaylooms, Twin Knitters, warpers, beamers, and creels.

Saco-Lowell Shops, Boston, Mass., recently elected Malcolm D. Shaffner and F. Robbins Lowe as vice presidents. Mr. Shaffner joined the firm in 1933 and was elected treasurer in 1945. Mr. Lowe became Southern agent for Saco-Lowell in 1949 on the death of Walter W. Gayle. As vice president he is now in charge of sales in the Southern territory.

Textile Machine Works, Reading, Pa., is erecting a building for the electrostatic painting of foundry castings. The building, of brick and steel sash, will be 80x180 ft., with one story and a basement.

Trumbull Electric Mfg. Co., Plainsville, Conn., has named Leonard E. Bees to the position of vice president in charge of manufacturing. He has been manager of manufacturing since August, 1949.

Trumeter Co., New York, has named as its Northern representative George M. Westwater of Irvington, N. J. The firm's Southern representative is Slaughter Machinery Co., Charlotte, N. C.

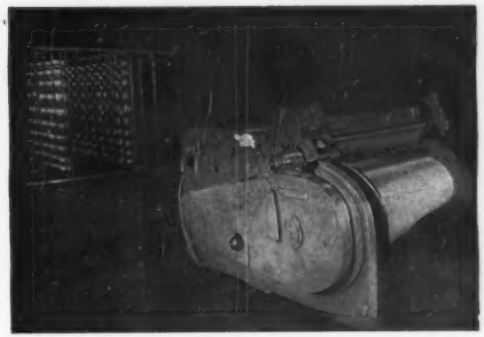
Weston Electrical Instrument Corp., Newark, N. J., has appointed Philip Barnes general sales manager. He has been associated with the Weston organization for 16 years.

Chemical and Yarn Suppliers

Aberfoyle Mfg. Co., Philadelphia, Pa., has made available licenses for the manufacture and sale of all daylight fluorescent wearing apparel, except swimwear, under the trademark "Day-Glo." The purpose of the licensing procedure is to insure maintenance of quality of all daylight fluorescent textiles as expanded by Aberfoyle, sales agents for Switzer Bros., Inc., Cleveland, Ohio, inventors of the color process.

American Cyanamid Co., Calco Chemical Div., Bound Brook, N. J., recently appointed F. B. Havens, former

Meeting the Test of Actual Mill Operation



THE NEW SIPP-EASTWOOD ELECTRICALLY CONTROLLED

HIGH SPEED WARPER

—the speed of the machine is limited only by the yarn in mills where only the most efficient equipment is tolerated. It builds beams up to 36 inches in diameter, 54¼ inches or wider between heads, with practically no vibration because of smoothly applied power and extra heavy construction.

FEATURES THAT ARE OUTSTANDING:

1. Stepless automatic electrical control of warp speed 1% maximum variation.
2. Electrical indication of speed at all times.
3. Finger-tip controls throughout.
4. Static eliminator.
5. Motor-mounted magnetic disc brake.
6. Magnetically operated hydraulic brakes for auxiliary braking of beam, measuring roll and pressure roll, and to hold the beam at a standstill.
7. Separate hydraulic system for handling beams in and out.
8. AC power only required.

Ask for all the facts about this splendid warper.

SIPP-EASTWOOD CORPORATION
47 Keen Street **Paterson, New Jersey**

DOMESTIC AGENTS:

S. FRED TOLL
2128 Green St.
Charlotte 1, N. C.

J. S. FALLOW & CO.
New Bedford, Mass.

Stainless Steel CYLINDERS

...accurate...true running

Blickman Built Stainless Steel drying cylinder . . . 60 inch diameter. Plate No. 7252

Stainless Steel drying rolls . . . high pressure steam, built to A.S.M.E. code specifications.

FOR TROUBLE-FREE SERVICE UNDER MODERN HIGH SPEED TEXTILE OPERATIONS

For protecting the fabrics you process, Blickman Built cylinders are being recommended and used by an increasing number of manufacturers of textile finishing machinery. The reason is simple. Blickman specializes in the fabrication of stainless steel cylinders to give you a more accurate, more dependable, safer cylinder. Our special plant equipment and controlled welding procedures assure rugged construction for long service. Blickman Built cylinders are available through many textile machine builders or through us.

- **DIMENSIONS**—Built in any diameters or lengths to meet your requirements.
- **FINISH**—Polished on our own automatic machines to as high as number 6 finish, if you require it.
- **CODE REQUIREMENTS**—Cylinders built to conform to local and ASME national board codes.
- **INSPECTION**—Tested at twice working pressure . . . thoroughly checked for leaks.
- **CONSTRUCTION**—Mechanically sized for accuracy and true running. Furnished with or without heads.
- **TYPES**—Dry cans, presetting cylinders, cooling cylinders, etc.

Specify Blickman Built cylinders through your textile machine builder . . . or send your inquiry direct to us. Quotations furnished promptly.

EST. 1889

S. BLICKMAN, INC. 410 GREGORY AVENUE WEEHAWKEN, N. J.

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, heads, tanks.

This

HEIM

Spherical Bearing

PLUS

A rubber bonded fabric body member makes a resilient, shock-absorbing, durable sweepstick which represents the greatest advancement in design in a century.

+

HEIM *"Unibal"*

SWEEPSTICK

Keep on hand a supply of the new Heim sweepsticks so that, as your old style ones wear out, you can replace with these time- and money-saving sweepsticks.

THE HEIM COMPANY

FAIRFIELD, CONNECTICUT

NEWS ABOUT *Suppliers*

***F. A. TEEPLE, JR.**, has been made manager of the new product-engineering department of Atlantic Steel Co., Atlanta, Ga. With the firm since 1934, Mr. Teeple heads a staff of metallurgical and product engineers, including Fred O. Reese, Emmett R. Rushin, Lawrence A. Wallace, and Michael F. Wiedl, Jr.*

***ALBERT H. RANT** has been named New England sales and technical-service representative of Laurel Soap Mfg. Co., Inc., Philadelphia, Pa. A graduate of LTI and a member of the AATCC, Mr. Rant has had wide experience in the manufacture and application of synthetic agents and auxiliary products.*

technical field-service representative, to the position of Pacific Coast regional manager. His headquarters will be in San Francisco, Calif.

Arnold, Hoffman & Co., Providence, R. I., has named William M. Shine to its plastics department, to be located in New York. He has been in the plastics field for 10 years.

Celanese Corp. of America, New York, has made known that its new $27,000,000 high alpha cellulose plant of Columbia Cellulose Co., Ltd., Prince Rupert, British Columbia, Canada, will come into production during the first quarter of 1951. The initial production rate is set for over 200 tons a day, roughly equal to the consumption of high alpha pulp among all cellulose-acetate rayon manufacturers in 1949. A territory of 600,000 acres of timber land has been reserved to the company under a forest-management license.

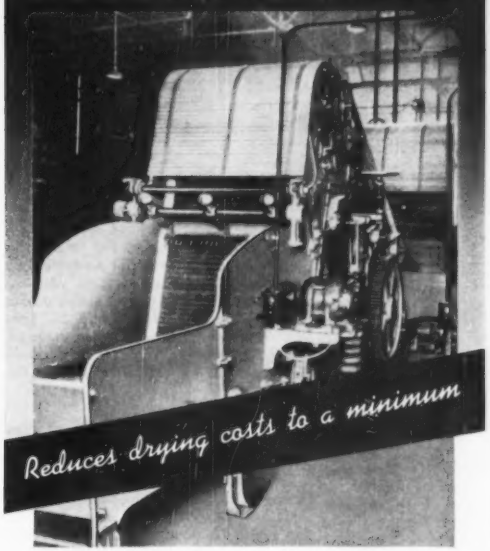
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., plans to add more than 100,000 sq. ft. of floor space to its nylon-manufacturing facilities at Martinsville, Va., its eighth major expansion in nylon manufacturing since World War II and its second at Martinsville during the same period. Spinning, inspection, and shipping areas will be increased. Completion of the project is scheduled in 1952. The Seaford, Del., and Chattanooga, Tenn., nylon plants are also being expanded at present. The Orlon acrylic fiber manufacturing unit at Camden, S. C., will be formally opened on the 6th of this month. W. Samuel Carpenter III was recently named assistant manager of the company rayon-department planning division.

Goodyear Tire & Rubber Co., Akron, Ohio, has transferred E. J. Dunlavy of the vinyl film-sales department from Akron to the New York offices. He is working under William J. O'Keefe, New York district manager for the division.

Hooker Electrochemical Co., Niagara Falls, N. Y., has just completed a large, modern trichloroethylene manufacturing plant at Ashtabula, Ohio, for Hooker-Detrex, Inc. Nonflammable degreasing solvents are to be produced for both industrial cleaning and oil-extraction purposes.

Industrial Rayon Corp., Cleveland, Ohio, and the Textile Workers Union of America, CIO, recently signed new agreements providing for a wage increase of 11¢ an hour plus an additional 2¢ an hour in various adjustments. The contracts, running for two years, cover approximately 4,000 employees, and include

Continuous–Automatic EXTRACTING



TODAY'S

MODERN EFFICIENT METHOD

The SARGENT "CONTINUOUS" EXTRACTING SYSTEM is saving thousands of dollars for many woolen, worsted and cotton mills. It employs an Automatic Feeder, the Extracting or Squeeze Roll Machine, and a Stock Dryer. This method of removing surplus dye, bleach, or scouring liquor from wool, staple rayon fibres, shoddy, mixed fibres, cotton and cotton linters, before drying, offers many distinct advantages, including:

SINCE 1852

- One-man operation, with capacity up to 2,500 pounds per hour.
- Machine made in five widths for varying plant requirements.
- Even and continuous flow of material into and through the dryer.
- Uniform drying results—savings in power—savings from continuous action—savings in labor, with ease of operation.

Write us for complete details.

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

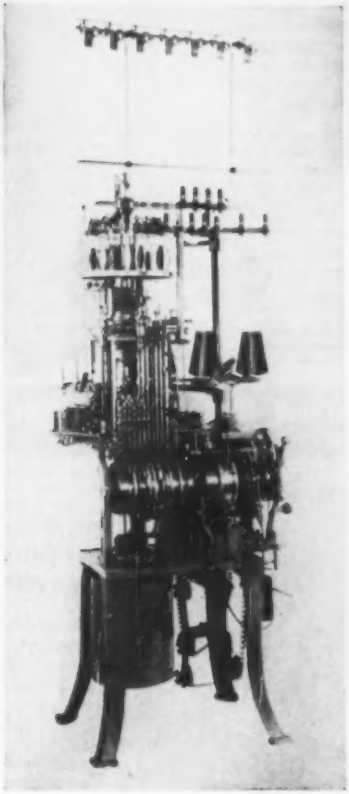
WESCO STOPMOTIONS

FOR

OUTERWEAR • UNDERWEAR • HOSIERY

STANDARD EQUIPMENT

Scott & Williams



THE NEW KOMET WRAP MACHINE

WESCO Engineers keep pace with the development of all new knitting machines. WESCO electric stop-motions are built in any series from 1 to 96 ends including Retractable electric needle protectors—safety controllers—hole and press-off detectors and Sentinal Press-off detectors. Manufacturers and knitters alike recognize WESCO "know-how" and "how". Specify WESCO and you get the finest.

LOOK FOR WESCO

on all these knitting machines:

H. Brinton Co.
Charles Cooper Co.
Crane Manufacturing Co.
Edmos Products Corp.
Fidelity Mach. Co., Inc.
Jacquard Knitting Mach. Co.
Lamb Knitting Mach. Co.
Leighton Machine Co.
Ordnance Gauge Co.
Scott & Williams, Inc.
Stafford & Holt, Inc.
Supreme Knitting Mach. Co.
Wildman Mfg. Co.

STANDARD THE WORLD OVER

STOP MOTION DEVICES CORP.

1471-77 Fulton St. Brooklyn 16, N. Y.

Another of a series of knitting machine builders. Others to follow.

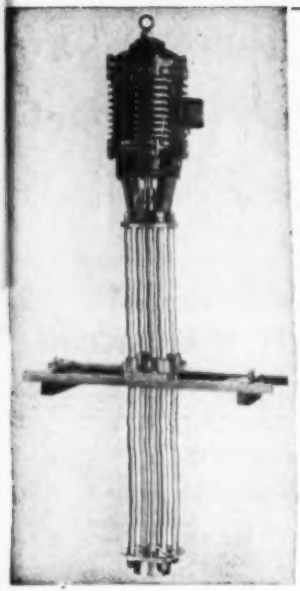
AMERICAN
SPEED-SET
GEAR CONSTRUCTION
NUMBERING
MACHINES

Clear, easily read figures; all-metal, self-inking; will cut costs and prevent mistakes in preparing price tickets and labels. Numbers changed with touch of finger.

Send for descriptive folder illustrating many printing and numbering machines specially designed for the textile industry.

Case 1764
Style 1235-16
No. 12345
Price 56¾ 56¾

American Numbering Machine Co.
ATLANTIC & SHEPHERD AVES. BROOKLYN 8, N. Y.



EPPENBACH
HOMO-MIXER

A high speed combination mixer and homogenizer for the manufacturer of warp sizings, oil and wax emulsions and unexcelled for the incorporation of dyes and pigments into suitable vehicles.

Low mixing cycles — Maximum dispersion and efficient wetting out at most economical rates.

Furnished either singly or in combination with paddle mixers fitted with scraper blades designed into the finest stainless steel single shell tanks or kettles.

Write for further details and please specify your problems.

EPPENBACH, INC.
45-10 Vernon Blvd. Long Island City 1, N. Y.

NEWS ABOUT *Suppliers*

improvements in life-insurance benefits, severance-pay allowances for employees displaced as a result of technological changes, liberalization of vacation eligibility, a daily guarantee to piecework employees, and a wage re-opening at the end of one year.

Minnesota Mining & Mfg. Co., Minneapolis, Minn., plans to construct two adjoining buildings for warehouse and sales-office space in Atlanta, Ga. The one-story warehouse will be 100x100 ft., while the office building will measure 41x 61 ft. They will be of steel and masonry construction, and will be served by the Seaboard Airline Railway. Both units are expected to be ready for occupancy about January 1.

A. M. Tenney Associates, Inc., New York, has been acquired by Eastman Kodak Co., and Tennessee Eastman Corp., Kingsport, Tenn., as a wholly owned subsidiary. The New York firm will continue as the sales representative of Tennessee Eastman Corp. for the sale of Eastman cellulose acetate yarn and staple, without change in sales policy or personnel.

Westvaco Chemical Div., Food Machinery & Chemical Corp., New York, recently appointed Don C. Oskin, its division sales manager in charge of phosphate sales, to the position of director of district sales. James R. Harris, Jr., succeeds Mr. Oskin in his former position.

Other Services

The American Cotton Manufacturers Institute, Inc., Charlotte, N. C., has made known that the following mills have become members: Blair Mills, *Belton, S. C.; Little Cotton* Mfg. Co., Wadesboro, N. C.; Brower Mills, Inc., Hope Mills, N. C.; Harden Mfg. Co., Inc., Rock Hill, S. C. and Hardins, N. C.; Maiden Spinning Mills, Inc., Maiden, N. C.; Pinnacle Mills, Easley, S. C.; Carolina Mills, Inc., Dillon, S. C.; and Monument Mills, Inc., Housatonic, Mass.

American Standards Assn., New York, reports that safe practices in the design and use of industrial power trucks have been established by a nationwide agreement among users, safety engineers, and manufacturers of the trucks. The safety code has been published as American Standard B56.1–1950. Tractors, platform trucks, low-lift trucks, high-lift trucks, fork trucks, and special-purpose trucks only are included.

J. VICTOR NELSON, former general manager of Dunson Mills, La Grange, Ga., and for six years plant manager of Avondale Mills plant, Alexander City, Ala., has been appointed Southern district manager of Diehl Mfg. Co., Somerville, N. J., division of Singer Mfg. Co. Mr. Nelson will have his headquarters in Atlanta, Ga.

Fairleigh Dickinson College, Rutherford, N. J., is giving day and evening courses in the following subjects this fall: orientation in textiles; identification, analysis, and testing; raw materials; textile chemistry; dyeing and printing; and finishing of piece goods. The textile department is under the direction of H. R. Mauersberger.

Lowell Textile Institute, Lowell, Mass., has been granted an LTI research foundation by the Massachusetts state legislature. The foundation is set up to receive and hold in separate custody gifts and bequests; to receive and hold compensation from inventions and patents; to disburse funds so acquired for instruction, research, tests, invention, development, or engineering; to obtain, administer, hold, and dispose of patents and licenses; to make assignments; and to execute contracts. The foundation will be set up by the trustees of the Institute. The school recently prepared an 18-page brief describing its possible contribution to the national welfare in the event of a continuing war emergency.

UP TO 10 TIMES GREATER CAPACITY

—for your Water Softener with these Modern Zeolites!

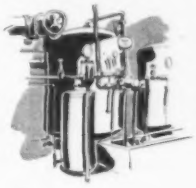
Know how to step up the capacity of your water softener? Permutit has made it easy . . . by developing zeolites that give up to *10 times greater capacity*, up to 50% greater flow rate.

That's right . . . no costly modernization is needed. Just replace your softener's present mineral with one of Permutit's new high-capacity zeolites . . . that's all you do!

Change to Automatic Controls —and save money!

Why not convert your manually controlled softener to Permutit automatic controls? You will get a constant supply of clear, completely soft water . . . and save costly man-hours of labor and maintenance.

Write for full information to The Permutit Company, Dept. TW 10, 330 West 42nd Street, New York 18, N. Y., or to Permutit Company of Canada, Ltd., 6975 Jeanne Mance Street, Montreal, Canada.



Water Conditioning Headquarters for Over 37 Years

PERMUTIT

IT'S NO YARN!

fiber-craft has designed ...with your mill in mind

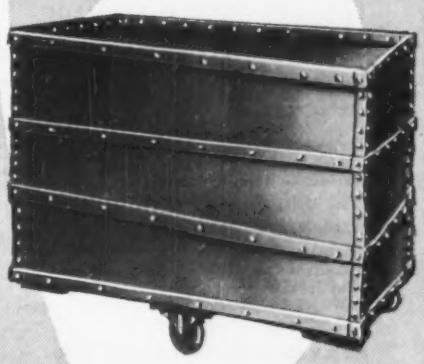
MILL BOX

SNAG PROOF INTERIOR . . .
for handling yarn and other perishable items. Widely used for bobbins. Hard vulcanized fiber . . . Steel box channel top rail . . . Steel tipped hardwood runners . . . Steel reinforced hand holds. Made to your size specifications.

TEX-TRUK

DURABLE YET LIGHTWEIGHT . . .
Hard vulcanized fiber body. Seasoned hardwood deck and reinforcing ribs.

SNAG PROOF INTERIOR . . .
All rivet heads on inside for handling the finest textiles.



PROTECTING WOOD FLOORS . . .
Four 4" rigid soft rubber casters with thread guards. (Other gear available.)

Made to your size requirements.

Nassau fiber-craft co., inc.
GLEN COVE, N.Y.

RED-RAY BURNERS

RED-RAY BURNERS

Increase Finishing Plant Production

Two Red-Ray Burners installed ahead of oven-type dryer increase production through dryers at Reigel Textile Corp., Trion, Ga.

Write for Bulletins

RED-RAY MANUFACTURING CO., INC.,
455 W. 45th St. - New York 19, N. Y.

For Maintained Shrinkage—
Perfect Finish—Long Life

HUYCK

→COMPRESSIVE SHRINKAGE←

BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

Write for information
or see our representative

F. C. HUYCK & SONS
KENWOOD MILLS
Rensselaer, N. Y.

NEWS ABOUT *Mills*

Cotton Mills

Alabama Mills, Inc., Wetumpka, Ala., is constructing 75x250-ft. addition to dye plant. Space will be provided for new Cocker indigo-dyeing machine, with provision for package and raw-stock dyeing operations. Robert & Co. Associates, Atlanta, Ga., is engineer.

Alice Mfg. Co., Easley, S. C., is constructing building which will add 58 ft. to one end of main plant and provide for rearrangement of machinery to better advantage.

American Yarn & Processing Co., Mount Holly, N. C., has two warehouses under construction at Woodlawn plant. Company is also adding more cleaning and picking equipment at Adrian and Madora plants and enlarging cleaning and picking rooms. Extensions totaling about 80x35 ft. in each plant are called for.

Bernside Mills, Inc., of New York, has purchased Bloom Mills, Inc., Gastonia, N. C., which suspended operations over a year ago. Production under new management will be combed yarns plied for knitting and weaving.

Collins & Aikman, Ltd., Farnham, Que., expects completion in near future of $300,000 addition to its plant being erected by Robert M. Miller Construction Co., Ltd., Montreal. Architect is Ross Wiggs, Montreal, and consulting engineers are Wiggs, Walford, Frost & Lindsay, Montreal.

Columbus Mfg. Co., Columbus, Ga., is erecting a two-story, 50x100-ft. addition to cloth room. Robert & Co. Associates, Atlanta, is engineer.

Cowata Mill, Newnan, Ga., has been organized by L. Otto Hutchinson, J. W. Estes, and J. L. Hutchinson to make ⅞- and ¼-in. cotton rope. New plant will have 19 cards and 1,344 spindles. Mill building, originally constructed by G. R. Brooks as a wool spinning mill, will have central-station air conditioning and fluorescent lighting. Some machinery has been bought from Cherokee Mill, Woodstock, Ga., closed because of its location in area taken over by Allatoona reservoir.

Dominion Fabrics, Ltd., Dunnville, Ont., recently installed automatic winding machinery, latest type of Jacquard weaving machines, bleaching equipment, a recreation room, and electric sub-station. Firm has also erected new boiler house and is now installing a 265-hp. water-tub boiler with automatic coal storage and feed. Dye house is to be remodeled and latest package-dyeing equipment installed.

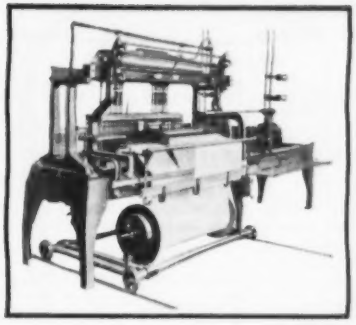
Fullerton Cotton Mill, Inc., Newnan, Ga., is constructing addition for expansion of spinning and twisting. About 5,000 spindles will be added to make coarse yarn. Mill is installing 15 new cards. When finished, addition will bring mill total to 15,000 spindles and 50 cards.

Globe Mills Co., Mount Holly, N. C., has purchased mill of Carter Mills, division of A. B. Carter, Inc., Lincolnton, N. C., and will occupy for branch plant. Mill will be modernized and improved.

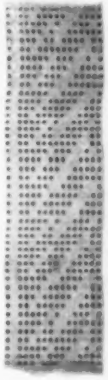
Graniteville Co., Graniteville, S. C., plans installation of new 100,000-lb.-per-hr. steam boiler which uses fuel oil and can be converted to natural gas. This boiler will be third in Stevens steam plant and is expected to be in operation in early 1951. It is expected to operate at 86% efficiency.

Hathaway Mfg. Co. is expanding its research laboratory at New Bedford, Mass., using building previously occupied by former Naushon Mills.

Kings Mountain Narrow Fabrics, Inc., Kings Mountain, N. C., has sold its assets to Lambeth Rope Corp., New Bedford, Mass., for $55,000. Company will manufacture spinning and twisting tapes.



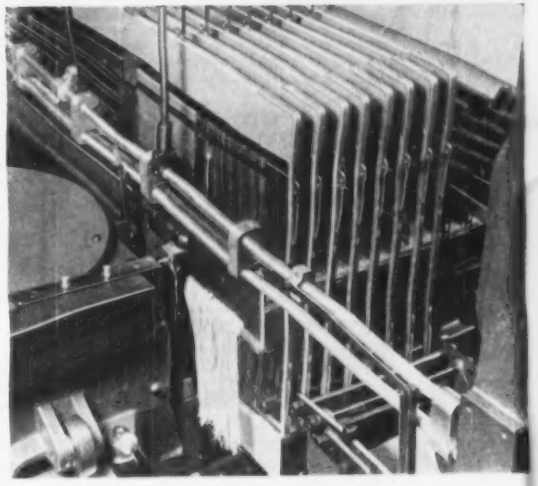
BARBER-COLMAN DRAWING-IN MACHINE



FAST! ACCURATE! SAVES TIME! SAVES MONEY!

The strips down the center are photographs of two typical punched metal pattern ribbons which control the machine by determining the elements through which each thread will be drawn. All elements are drawn in one operation.

THIS MACHINE WILL DRAW-IN ANY DRAFTABLE PATTERN UP TO 26 HARNESS 6 BANKS OF DROP WIRES, AND REED



For practical purposes, there is *no limit* to what this machine can handle. No matter how complicated the pattern, if it can be drafted, the machine will draw it—just as fast and just as accurately as any simple pattern. At the show we demonstrated a plaid that went over 500 threads before the pattern repeated. You can put one, two, or three threads through a single harness eye, if you want to. You can have the dents in the reed drawn regular (like 3-3-3-3) or irregular sequence (like 4-3-1-4-2), or any other arrangement you need. Best of all, you can get your warp ready for the loom in a *fraction* of the time it would take by hand—and repeat it just as quickly any time you like. If you want to save *time* and *money*, investigate the possibilities of this machine at the first opportunity.

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(Excerpt from Association of Consulting Management Engineers pamphlet.)

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Also: Colorimeters, Fluorescence Meters, pH Meters

NEWS ABOUT *Mills*

Linn Mills Co., Landis, N. C., has purchased White Parks Mill, Concord, N. C., with approximately 4,000 spindles. Mill will manufacture knitting yarn.

Loomtex Corp., Kings Mountain, N. C., formerly Du-Cort Mills, is now in operation producing 68x72 and 60x48 print cloths.

Maiden Spinning Mills, Inc., Maiden, N. C., has sold its Plant No. 1, a carded ply-yarn mill, to Macanal Mills, Inc., Salisbury, N. C. Maiden mill was turned over to new owners the first of this month.

Montreal Cottons, Ltd., Montreal, Que., has let contract for construction of one bridge and one dust chamber in its Gault Mills at Valleyfield, Que. Cost is estimated at $48,000, and Anglin-Norcross, Quebec, Ltd., Montreal, is general contractor.

Naumkeag Steam Cotton Co., Salem, Mass., has been granted charter in California. Company, which has a capitalization of $4,000,000, has also received a charter in state of South Carolina, where a plant was recently purchased.

Neely Cotton Mills, Inc., York, S. C., was recently purchased by Hyde Rakestraw Co., Philadelphia, Pa., which will operate plant as **Neely Mills, Inc.**, a new corporation.

Olympia Corduroy, Ltd., of England, has awarded contract for demolishing and rebuilding center portion of former property of Shefford Woolen Mills Ltd., Granby, Que., where it will establish a plant. R. F. Stewart Construction Corp., Sherbrooke, Que., has general contract at $23,000.

Opelika Textile Mills, Opelika, Ala., has made a 12% increase in production following the installation of new equipment including 84 new looms.

F. W. Poe Mfg. Co., Greenville, S. C., is installing air conditioning in its plants. Project includes bricking-up windows and construction of apparatus cooling towers. Daniel Construction Co., Greenville, S. C., is in charge of project.

Springs Cotton Mills, with main offices in Lancaster, S. C., has ordered from H & B American Machine Co. 60 additional spinning frames, 288 spindles each, equipped with Springmaid superdraft and new H&B Century spindle. Frames will be used at Lancaster plant and Gayle plant in Chester, S. C.

Sullivan-Southern, Inc., York, S. C., is constructing new building equal in size to company's existing plant. New building will contain more loom space than first building since no space will be allocated for office use. Company manufactures narrow fabrics for zippers.

Swift Spinning Mills, Columbus, Ga., has completed installation of Bahnson humidifier and air-conditioning system throughout spinning and twisting departments. Robert & Co. Associates, Atlanta, is engineer.

Victor-Monaghan Co., Greer Plant, Greer, S. C., a division of J. P. Stevens & Co., Inc., has awarded contract to Daniel Construction Co., Greenville, S. C., for construction of an additional 55,000 sq. ft. of building area and installation of new machinery. As construction work and installation of new machinery progress, plant will change operations from present narrow-loom plain weaving to wide box-loom production.

Wabasso Cotton Co., Ltd., Three Rivers, Que., is erecting an addition and making alterations in plant. Cost is estimated at $35,000 and includes an annex and alterations to present weave shed.

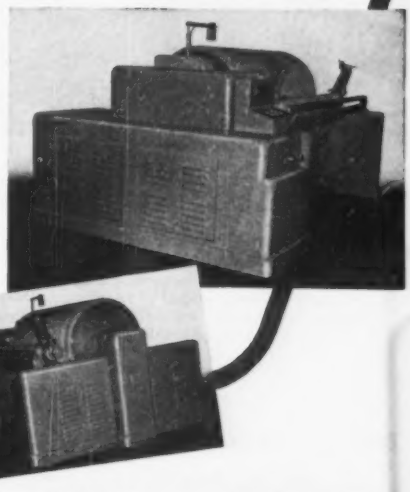
Woolen and Worsted Mills

Great West Felt Co., Elmira, Ont., now occupies new $27,000 office building.

Guerin Mills, Inc., held a recent meeting of stockholders in office of company at Woonsocket, R. I., for purpose of considering approval of construction by Ramseur Worsted Mills, Inc. of an addition to its building at Ramseur, N. C. It is planned to transfer substantially all of remaining spinning operations now conducted by Guerin Mills, Inc., at Woonsocket, to North Carolina location at Guerin.

The New GESSNER "VERSAMATIC" Semi-Decating Machine

Gessner's use of hydraulic power in the new Versamatic Semi-Decating Machine, introduces a degree of decating control never before attained. A single lever controls the direction of rotation, and the infinite speed variations of the internally heated steaming cylinder. Decating Aprons run straight and true in the Versamatic. An optional control panel regulates the entire sequence of steaming and cooling cycles. The Versamatic also conserves steam to give greatly improved decating results. Write for complete details today.



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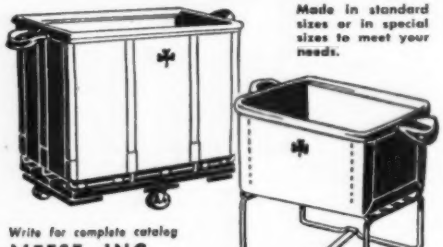

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NEWS ABOUT *Mills*

Halifax Worsted Mills, Halifax, Va., is constructing addition to plant which will add approximately 30% to floor space. New unit will be used for processing scoured wool into wool top. Halifax plant, currently employing 550 people, is expected to add some 75 persons to payroll as result of expansion program.

Peerless Woolen Mills, Rossville, Ga., has awarded contract to Bahnson Co., Winston-Salem, N. C., for installation of air-conditioning system in weave room. Robert & Co. Associates, Atlanta, Ga., are engineers.

Pittsfield Industries, Inc., Pittsfield, Me., has recently acquired Lancey G. Milliken, Inc., wool-processing plant, Pittsfield, and will continue to do same type of wool and rayon processing as in past.

Sawyer Mills of American Woolen Co., Dover, N. H., has added over 100 employees for third shift and cancelled its annual one-week vacation to increase production.

Spinnerin Yarn Co., Inc., New York, N. Y., has recently announced that it will soon start importation of French-spun Zephyr yarn for use in hosiery, knitted outerwear, and weaving trades. Company also announced that it is entering commission-dyeing field with a specially constructed plant at South Hackensack, N. J. Yarns available in new import plan range from 2/40s to 2/80s and are made from selected tops ranging in quality from 64s up to 100s in grade.

Synthetics Mills

Abbeville Mills Corp., Abbeville, S. C., is planning early installation of 60 new looms and accessory equipment, as well as new dyeing and finishing machinery, as part of its expansion program. Entire project will represent an investment of about $600,000.

American Enka Corp. has begun work on expansion of Lowland, Tenn., plant. New unit, when in full operation, will employ 300 additional men and women.

Burlington Mills Corp., Greensboro, N. C., will construct large distributing warehouse at Bergen County Industrial Terminal, Teterboro, N. J. Building will be one-story, containing 240,000 sq. ft. of service area in addition to a two-story section of 15,000 sq. ft. containing air-conditioned offices and cafeteria. Winne & Banta, Hackensack, N. J., are representing Burlington in this project. Burlington has recently acquired a majority interest in Brighton Mills, Inc., of Shannon and Forsyth, Ga. Brighton mill will continue under its present management, headed by Howard R. Hart, president of mill, who has been with concern for 11 years.

Carthage Fabrics Group, Carthage, N. C., newly constructed weaving mill, has begun limited production of filament-rayon fabrics. Total of 480 looms will be operated when plant reaches full production.

Cheraw Weaving Mills, Cheraw, S. C., has broken ground for addition to plant which will add 20,000 sq. ft. of floor space to present mill. New building, which will join directly to present structure, will be 17x138 ft. and will be adaptable for further expansion if required. Estimated cost of structure is $125,000. Machinery to be installed is expected to cost $250,000. Fletcher McBride is contractor.

Dominion Burlington, Ltd., Montreal, a subsidiary of Dominion Textile Co., Ltd., Montreal, has let contract to erect 330x330-ft. textile plant in Sherbrooke, Que. Building will be of brick construction and contain 115,000 sq. ft. of floor space. It will be windowless and completely air-conditioned throughout. J. L. E. Price & Co., Ltd., Montreal, has been awarded general contract at an approximate price of $1,000,000. Plans were prepared by staff of Dominion Textile Co., Ltd.

Haynsworth Mill, Anderson, S. C., will construct 18,000-sq.ft. addition to plant expected to cost $90,000. Anderson Industrial Buildings, Inc., owner of building, is doing construction with Daniel Construction Co., Greenville, S. C., in charge of building program. Company will install additional machinery.

Another page from the "Ludox" success story:

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(as much as 20%, if loftier yarns permissible)

WITH "LUDOX"® (COLLOIDAL SILICA)

For example, Du Pont "Ludox" colloidal silica treatment on 3.0 denier 1-½" rayon staple increased the lea product of 20s yarn from 1823 to 1940 while permitting a reduction in twist from 13.5 to 11.2 turns per inch. Thus use of "Ludox" can allow higher production rates through lower twist. And "Ludox" also does this for rayon-wool blends and rayon-cotton blends.

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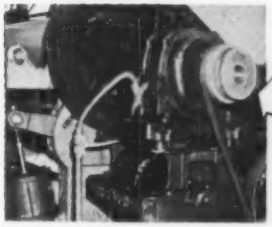
If you operate textile machinery which starts and stops frequently you can avoid overheating your electric motors by equipping each motor with a Mercury Automatic Clutch. By cushioning the start you allow the motor to deliver its full torque to turn over the machine . . . permitting the use of a general purpose motor instead of a high-torque type. Write for Catalog 216-FI, giving us full details regarding intended application.



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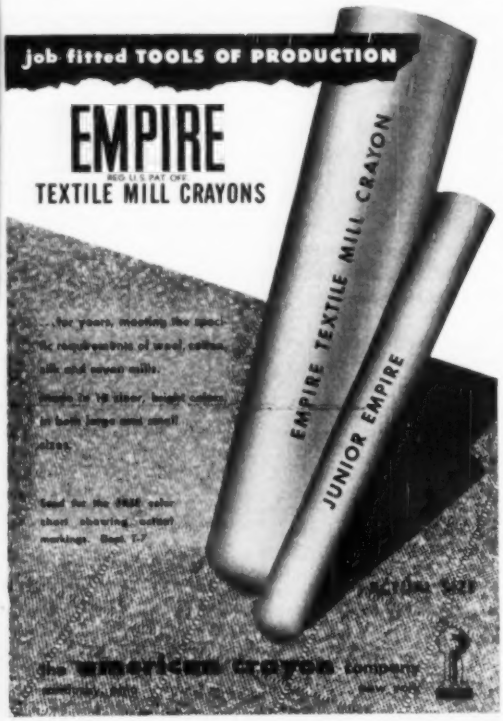

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NEWS ABOUT *Mills*

Industrial Rayon Corp., Cleveland, Ohio, has let general contract to George A. Rutherford Co., Cleveland, for 70x175-ft., one-story addition, as well as alterations and improvements in present buildings. Cost will be about $500,000 with equipment. J. Gordon Turnbull, Cleveland, is engineer.

Marion Mfg. Co., Marion, N. C., plans an expansion and modernization program. Entire project, including installation of new machinery, is reported to cost over $500,000.

Moss Rose Mfg. Co., Philadelphia, Pa., has taken long-term lease on property adjoining plant and will remodel for handling and storage of yarns and fabrics.

Nylon Spinners has been established on Mettler St., Los Angeles, Calif., to spin nylon thread and to offer job-shop facilities to knitting interests. Job operations performed will include winding, twisting, spinning, plying, coning, skeining, steaming, and thread setting.

Peerless Mills Co., Inc., Pawtucket, R. I., has filed notice of increase in capital stock to $500,000, for general operations.

Rochester Weaving Co. has taken over former Cocheco Woolen Mfg. Co., Rochester, N. H., and will produce rayon flat goods. New machinery will be installed; and operations are expected to get underway in the near future.

Textron Southern, Inc. has sold its Royston Textile Plant, Royston, Ga., to John Snead and E. E. Owens, of Anderson, S. C. New corporation, under name of **Quality Sewn Products, Inc.**, will be organized with Mr. Owen as president.

Verney Corp., Boston, Mass., has sold its Taunton, Mass., and Granby, Que., plants to Crescent Corp., Fall River, Mass. Verney is negotiating to sell worsted plant at East Greenwich, R. I. Company will in future concentrate on men's wear finished fabrics and rayon and acetate gray goods.

Knitting Mills

Bear Brand Hosiery Co., Kankakee, Ill., which recently announced that it will locate a plant in Fayetteville, Ark., will locate another plant in Siloam Springs, Ark. New plant will be of steel and brick construction and will contain 15,000 sq.ft. of floor space. Approximate cost of building will be $100,000. Plant will employ 150 workers.

William Carter Co., Springfield, Mass., has let contract to Ernest F. Carlson, Inc., Springfield, for alterations and improvements in mill.

Citation Fabrics Corp. has purchased large interest in Guilford Mills, Inc., Greensboro, N. C., which now has 12 tricot machines operating and 12 more on order. Mill manufactures nylon and acetate-rayon tricot fabrics.

Collins Hosiery Mills, Inc., Winston-Salem, N. C., has been organized with capital stock of $100,000. Incorporators are W. T. Collins, Nora Collins, and Rosebud Garriott, all of East Ben.

Derby Underwear Co., Bowling Green, Ky., is constructing brick addition, to cost $400,000.

Diamond Knitting Mills, Newton, N. C., has sold its machinery to a concern located in Mexico City. Diamond plant had not been open for several months.

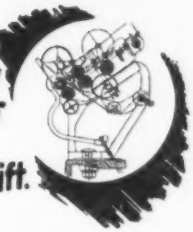
Forest City Knitting Co., Ltd., London, Ont., has completed 3,000-sq. ft. addition for use in manufacture of "Ripons" in Canada under license from Ripon Knitting Works, Ripon, Wis. "Ripon" is trade name for leather-sole loafer socks.

Gainesville Industrial Corp., Gainesville, Fla., is constructing 13,000-sq. ft. industrial building to house women's full-fashioned nylon hosiery mill. Mill will employ about 80 persons, with annual payroll of $250,000.

Georgian Hosiery Mills, Ltd., Owen Sound, Ont., has purchased former Huck Glove Co. plant at Durham, Ont., and will use facilities in doubling its production of nylon hosiery.

Graham Hosiery Mills, Graham, N. C., has installed six new full-fashioned hosiery machines to complete expansion program that began shortly

Spintex G·M B·H



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Single belt type drawing mechanism for spinning frames.
***SKF-NORMA** roller bearing spindles*
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***SKF-NORMA** tin roller bearings*
Vertical motion thread guide
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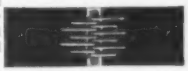
SPINDLE TAPE LACING EQUIPMENT

Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



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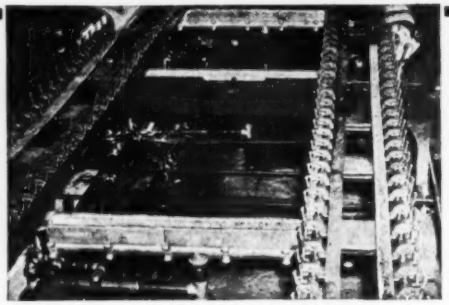

Gas Infra-Red generator under Tenter Frame for drying textiles. Increase in production 200%.

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Engineers and Constructors of All Types of Fast Drying Equipment for the Textile Industry.

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Industrial Heating Engineers
48 Herkimer Place Brooklyn 16, N. Y.

20 YEARS' EXPERIENCE
MATERIALS HANDLING, PLANT LAYOUT

In the textile industry, 20 tons of materials are handled for each ton of finished product.*

We have saved money in operation after operation in textile plants. A survey of your plant will probably disclose potential savings. Much can be done, if necessary, with a small expenditure for new equipment.

A senior staff member will be glad to tell you what we can do for you.

* P. 151, Textile World, Nov., 1949

Harry E. Stocker Associates, Inc.

MATERIALS HANDLING—PLANT LAYOUT
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Franklin Nat'l Life Bldg., Greenville, S. C.
53 State Street, Boston 9, Mass.
22 W. Monroe St., Chicago 3, Ill.

NEWS ABOUT *Mills*

after close of World War II and involved an expenditure of half a million dollars.

Griffin Knitting Mills, Inc., Griffin, Ga., plans installation of six Brinton and from six to eight Scott & Williams rib-knitting machines. Individual sewing tables are being installed; three flat-knit Tompkins machines are to be added. Mill has extended its operations to one shift of 9 hr. each day and one-half day Saturdays.

Monarch Knitting Co., Ltd., Esplanade and Berkeley Sts., Toronto, Ont., is converting part of present building into a transformer room.

Montgomery Knitting Mills, Summerville, Ga., plans erection of addition to plant which will include new boiler room and finishing department. Robert & Co. Associates, Atlanta, Ga., is engineer.

Sandust Mills, Inc., Rockingham, N. C., has begun construction of new fully air-conditioned plant for manufacture of women's full-fashioned hosiery.

Sanford Hosiery Mills, Inc., Sanford, N. C., in order to double present output of women's full-fashioned hosiery, will make extensions and improvement to its mill which will include installation of new knitting machines.

Stylewise Mills, Inc., New York, N. Y., has begun operations at Ridge Crest Ave. and Garrett St. in Carrollton, Ga., in new building which is ultimately to house 12 latest-type full-fashioned hosiery machines. Mills will also produce nylon jersey cloth on tricot machines.

Tenn-Rock Hosiery Co., McMinnville, Tenn., new knitting mill has begun operations on men's heavy wool hose. New mill is run by Rockford Textile Mills, Inc., Rockford, Ill., in 35,000-sq.ft. building purchased from Vogt Knitting Mills, which recently closed its plant at McMinnville.

Villa Rica Hosiery Mills, Villa Rica, Ga., has completed addition to its plant, which provides for 50% more floor space and production capacity in finishing and shipping department.

Williams & Petty Hosiery Co., Carthage, N. C., newly established, has begun operations on women's 54-gage, full-fashioned nylon hosiery.

Dyeing and Finishing Plants

Apponaug Co., a division of Aspinook Corp., Apponaug, R. I., has been granted permit to build cinder-block addition to mill at a cost of $175,000.

B. & B. Dye Works, Philadelphia, Pa., has completed $35,000 modernization and expansion program which will increase production about 20%. Company has installed all new Paramount preboarding equipment and all new forms. Plant boiler equipment has also been replaced.

Clearwater Finishing Co., Old Fort, N. C., has let contract to Fiske-Carter Construction Co., Greenville, S. C., for addition to mill. Robert & Co., Atlanta, Ga., is architect and engineer.

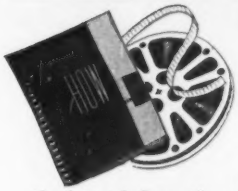
Sussex Dye & Print Works Co., Newton, N. J., has been purchased by David D. Doniger & Co., Inc., 303 Fifth Ave., New York, N. Y., and will be equipped for textile conversion.

United Merchants & Manufacturers, Inc., Old Fort, N. C., plans $1,000,000 addition to rayon finishing plant which is designed to increase mill processing capacity about 50%.

Valdese Mfg. Co., Valdese, N. C., is nearing completion of half-million dollar dye plant. When completed, plant will turn out dyed yarn at rate of over 100,000 lb. per week. Building will house 20 kiers and company will employ 50 new workers in dyeing operations. Firm is also adding twisting equipment. All operations will be completed in one building. Loading platforms and runways are included to facilitate transportation of materials.

Verney Corp., Peterboro, N. H., plans to expand its dyeing plant at West Peterboro by one-third. A one-story addition will be built to house new drying unit which will be 110 ft. long. Improvements will be completed by next spring.

"TEXTILES UNLIMITED"



PRESENTS

over 40 ways to improve quality and cut deep into manufacturing costs

Before you modernize, get all the facts you need... the latest information on many new methods and processes. Arrange NOW to see "Textiles Unlimited", General Electric's new 30-minute, full color, sound movie on textile mill modernization. You will also receive a 100-page reference manual, "How Textile Mills Are Modernizing." It's packed with cost-cutting, quality-improving ideas you'll want! Contact your nearest General Electric office today. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

A More Power To America Program

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THE BAKELITE KNEE BRAKE WITH FLEXIBLE STEEL HOOP

assures smooth braking action making for long wear of spindle — all types available to fit spindles already in operation, too. Write for advice concerning alteration and modernization of your plant.

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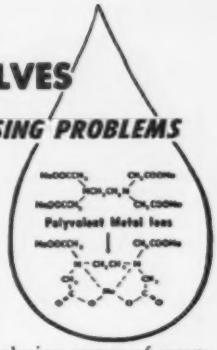
*Versene** SOLVES

WET PROCESSING PROBLEMS



NEW CHEMISTRY OF CHELATION

By Complexing troublesome metallic ions, the new Chemistry of Chelation now solves many of your oldest, most perplexing wet processing problems. The Versenes are extremely versatile organic complexing agents of exceptional stability. They control troublesome metallic ions with *mathematical exactitude*. Every chemist knows that these are the ions which so often interfere with the successful wet processing of textiles.

*WOOLENS and VERSENE**

Use Versene in Scouring to get better cleaning action, reduce quantity of soap necessary and prevent deposit of insoluble soap on the wool fibre. Versene increases solubility of tallow soaps.

On wool fabrics use Versene or, if iron is present, use Versene Fe3 in the last washing or rinse before dyeing. It will assure more even and better dyeing. Versene used at this point removes all insoluble soaps—permits better, more uniform penetration of dyestuff into the fibre. Versene's complete stability and outstanding efficiency give you a big advantage over ordinary water-softening compounds.

COTTONS and *Versene**

Use *Versene* Fe3 in bleaching baths and in Kierboiling to prevent hard water deposits and iron stains. Versene Fe3 Specific is recommended alone if only iron is troublesome. The Versenes also have applications in fabric sizing or in any process that involves suspended solid pigments, waxes or oils.

CAUSTIC SOLUTIONS and *Versene**

Use Versene T (the newest Versene) to make any process involving caustic solutions better. Versene T prevents the iron impurities in the caustic and the iron contaminations of the tanks themselves from causing stain-damage to the goods. *Versene T Complexes iron, hard water salts, and other metallic ions to form a clear solution, in caustic concentration of from 2% to over 25%.* Versene T in any caustic solution prevents precipitation of iron hydroxide—keeps cotton, viscose and other products treated with caustic clean and uncontaminated. Versene T is recommended for Kierboiling cotton . . . Mercerizing cotton and Viscose treatment in the manufacture of rayon.

The *Versenes** can help you solve wet processing problems. They are made to make your products and processes better. Get the facts. Send for samples, specifications and data on the Versenes in which you are most interested.

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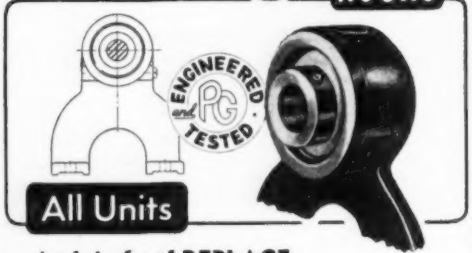

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NEWS ABOUT *Men*

P. B. Baldwin was elected president of Collins & Aikman Corp., New York, at recent meeting of board of directors. **Jay Weemhoff** will succeed Mr. Baldwin as director of sales.

Thomas B. Bishop has been elected president of Oregon Worsted Co., Portland, Ore., succeeding his father, the late Roy T. Bishop. **Herbert Jordan**, former assistant manager, was elected vice president and manager. **Louis Alexander** continues as treasurer and secretary.

Hubert Boddie has become superintendent of maintenance at Mount Vernon-Woodberry Mills, Inc., Tallassee, Ala., succeeding **Lester Sayers**, who has become general manager of Dunson Mills, LaGrange, Ga.

Carl A. Boggs, general manager of United Rayon Mills, Elberton, Ga., and Augusta Div. of Aiken Mills, Augusta, Ga., has had Seminole Mills, Statesville, N. C., division added to his general supervision. He will continue to make his headquarters at Elberton Mills.

W. Samuel Carpenter, III., has been appointed assistant manager of rayon department planning division of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Richard Charlton, Jr., formerly technical director of Masland Duraleather Co., Philadelphia, Pa., has been appointed superintendent of Lantuck division of West Point Mfg. Co., Fairfax, Ala.

Frank Clark has returned to Borden Mills, Kingsport, Tenn., as superintendent of warp-preparation and spooling departments.

E. L. Clifford, manager of Uncas Printing & Finishing Co., Mechanicsville, Conn., has resigned.

John K. Cochran has been appointed general manager of all ten textile mills of Duplan Corp. He will have his office at Hazleton, Pa., production headquarters of company. Mr. Cochran has been chief engineer of company since he joined Duplan five years ago. **George H. Hollis** will succeed him as chief engineer. **Paul Luscher**, former assistant mill manager, has been promoted to the newly created post of head of quality-control operations for the company.

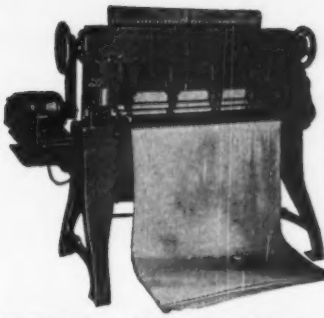
W. F. FITZGERALD has resigned as president and director of The Wool Bureau to join the New England division of Commercial Factors Corp., New York. Pending the election of a new president at the next regular meeting of directors in November, the Wool Bureau will be administered by an executive committee of which F. Eugene Ackerman is chairman.

Clifford B. Denison of Greenville, S. C., has been appointed director of public relation of Duncan group of mills, divisions of J. P. Stevens & Co., Inc.

Howard J. Dynes, former manpower supervisor of personnel department, Bigelow-Sanford Carpet Co., Amsterdam, N. Y., has been promoted to assistant superintendent of company wool and yarn mill.

John F. Eastham has resigned as general manager of Manchester, N .H., division of Verney Corp., where he has been for past seven years.

Raymond G. Emery and **Joseph H. Sutherland** have



Ten-Tex Super Tufters are manufactured by Tennessee Textile Machinery Company, Chattanooga, Tenn.

LIMA MOTORS power new Ten-Tex Super Tufters

Progressively designed for hard wear and long service, the new Ten-Tex Super Tufter produces Chenille yardage at the rate of 3 to 4 yards per minute of operation and sews material up to 45 inches in width.

This popular new Chenille yardage machine is powered by a rugged, dependable Type RS LIMA ELECTRIC MOTOR as the integral driving mechanism. LIMA MOTORS are available for many different textile applications in sizes ranging from 1/3 to 150 HP.

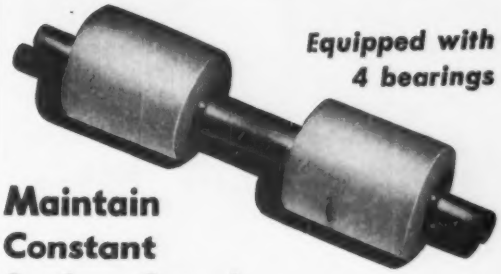
LIMA

WRITE TODAY FOR BULLETIN MB1

Representation in principal cities

THE LIMA ELECTRIC MOTOR COMPANY
2430 Findlay Road, Lima, Ohio

CLIMAX BALL BEARING TOP ROLLS

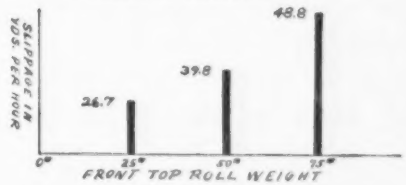


Equipped with 4 bearings

Maintain Constant Surface Speed

See how SOLID ROLLS Slip:

RESULTS OF STROBOTAC TESTS



Slippage up to 48.8 yds. per hour

This Stroboscopic test showed that solid top rolls do not turn in synchronization with the bottom fluted steel roll, but lag back. The greater the weight, the greater the braking acting of the saddle and cap-bar blocks:

Weight	Slippage lag per hr.
25 lbs.	26.7 yds.
50 lbs.	39.8 yds.
75 lbs.	48.8 yds.

Not only did the solid rolls slip in the cumulative amount indicated, but it also should be noted that this occurred in a series of jerks, a further undesirable condition.

Tested at the same time, in position next to the solid top rolls, Climax Ball Bearing Top Rolls evidenced no slippage, turning steadily and constantly.

When the surface speed of the top roll lags behind that of the fluted roll, production loss results. This loss can be recovered by using Climax Rolls. Their even and constant rotation also means the elimination of the scuffing or rubbing action on the fibers at the roll nip (a factor in the production of uneven yarn and roving), a reduction in the scuffing out of short fibers from the yarn strand, and an increase in the life of the synthetic cots can be realized by the elimination of the constant rubbing action between the fluted roll and the synthetic cot.

WHITIN Machine Works has adopted Climax as their standard anti-friction roll. Climax Rolls are available through Whitin Machine Works and all of their Agents.

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Give us your coating problem. We guarantee you an answer based on your conditions, and not just a standardized formula.

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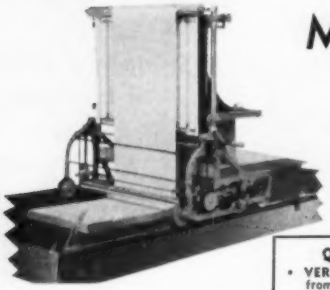
UTICA Hand Laying Up Machine for TUBULAR KNITTED FABRICS



QUICK FACTS

- **VERSATILE**—handles cloth from rolls or folds . . . any lengths.
- **QUICK INSPECTION** — holes and defects easily seen and turned out.
- **NO STRETCHING**—positive feeding eliminates all stretch.
- **ADJUSTABLE FEED** — for different weight cloth.
- **EVEN EDGES AND ENDS** —cloth goes over a spreader . . . no racking or waste.
- **RIGIDLY CONSTRUCTED** —equipped with ball bearings and frictionless bearings.

Here's a machine that lays up several times the amount that can be done by hand—and you don't need an expert to operate it. This new lightweight model piles cloth up to 7" high—standard machines 26", 32", 38" and 44" width rolls . . . others to order.

Check the features of this machine and you'll see why it's the best you can buy for laying up tubular knitted fabrics—*the machine you can't afford to be without!* Write today.

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ACID-ALKALI-PROOF PROCESSING TANKS • FLOORING

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NEWS ABOUT *Men*

***WILLIAM BERRY** (left) has been promoted from vice president in charge of sales to executive vice president of Riegel Textile Corp., New York. **W. E. REID**, (right) former vice president and assistant to Mr. Berry, will succeed him as vice president in charge of sales. **John L. Riegel** will continue to serve as principal executive officer of company, with new title of chairman of board. **H. H. Emery**, formerly executive vice president, was recently made president of the company.*

been named executive vice presidents of J. P. Stevens & Co., Inc., New York.

James G. Falcon has been appointed technical director of A. Harrison & Co., Inc., Pawtucket, R. I. He formerly was with Farwell Bleachery and other companies.

Harvey Gobeille has become manager of Para Thread Co., Inc., Raeford, N. C., succeeding **C. F. Powell**. Mr. Gobeille was formerly with American Wringer Co., Woonsocket, R. I., parent company of Para Thread. Other changes in personnel include the appointments of **J. E. Tillman** as superintendent and **Jake Austin** as personnel manager.

Charles P. Gordon, Jr., general assistant superintendent of dyeing and finishing at Trion, Ga., division of Riegel Textile Corp., has been promoted to superintendent succeeding **E. H. Dobbins**, resigned. **Joe O'Neill** has been made general assistant superintendent, and **Ernie Freeman, Jr.**, chief chemist.

Abe Heilig has joined Native Laces & Textiles, Inc., New York, as embroidery production manager. He formerly was with Gehring Laces, Inc.

Raymond E. Henderson, manager of gray mill of Dan River Mills, Danville, Va., has become superintendent of all plants, and **R. M. Stephens**, superintendent of Riverside Div. is now assistant general superintendent. **W. H. Spencer, Jr.**, has succeeded Mr. Stephens at Riverside, where he was formerly assistant superintendent.

George Hugeley, formerly with Pelzer Mills, Pelzer, S. C., has accepted superintendency of Clinton Cotton Mills, Clinton, S. C., succeeding **J. C. Boyce**, resigned.

Henry Johnson has become assistant superintendent of Packard Mills, Caryville, Mass.; **Oscar Rogers** has become overseer of finishing; **Allen Manter** has been promoted to superintendent, succeeding **William Cummings**.

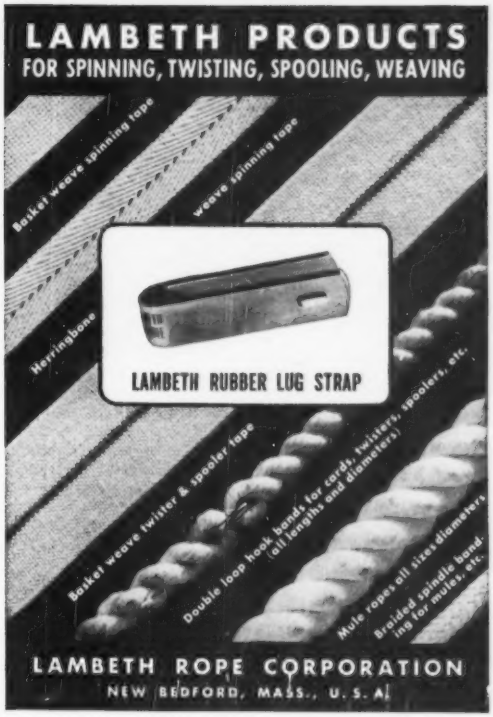
W. P. Ligon, associated with Reeves Bros., Inc., Spartanburg, S. C., in various capacities since 1928, has been elected a vice president of the company, succeeding his brother, the late H. A. Ligon. **Charles D. Green** was elected vice president of the Reeves subsidiaries in the Spartanburg area and succeeds Mr. Ligon as general manager of these plants.

W. W. Lufkin, Jr., vice president of Dan River Mills and head of sales division in New York, has resigned. Mr. Lufkin has made no announcement of his future plans.

Randolph Lux has been made superintendent of Monument Mills, Inc., Housatonic, Mass.

Robert S. Mann, former president of Newnan Hosiery Mills, Newnan, Ga., now

LAMBETH PRODUCTS
FOR SPINNING, TWISTING, SPOOLING, WEAVING


Basket weave spinning tape
weave spinning tape
Herringbone
LAMBETH RUBBER LUG STRAP
Basket weave twister & spooler tape
Double loop hook bands for cords, twisters, spoolers, etc. (all lengths and diameters)
Mule ropes all sizes diameters
Braided spindle banding for mules, etc.

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NEW BEDFORD, MASS., U. S. A.

up to par?

IN KOREA, the 38th parallel might be considered "par". In spinning and twisting, "par ring performance" enables your fine new machinery to do its best.

Considering what the future may bring, we advise early and liberal ordering of new DIAMOND FINISH rings and our improved "Speed" designs where applicable.

WHITINSVILLE (MASS.) SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

DANA WARP MILLS
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Cotton yarns, single and ply
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Colored yarns and warps
Spun rayon—yarns and warps

The ALDON SPINNING MILLS *Corp.*
TALCOTTVILLE, CONN.

Spinners of Fine Woolen, Worsted & Specialty Yarns

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Two exclusive features . . Affording Long Life

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2. Holding wings held positively in position by skeleton washer—no sliding around.

We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters and winders.

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THE OLDEST AND LARGEST MANUFACTURERS OF
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In the UNITED STATES
American • Hicks • Wilson
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National Ring Traveler Company
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Highest quality! **Most complete line!** **Prompt shipment!**

Other items are:
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Also corrosion-resistant equipment built to specification.

STAINLESS STEEL and MONEL UTENSILS by METALSMITHS

Metalsmiths has been supplying corrosion resistant equipment to the textile industry for more than 25 years. All items designed and fabricated to your needs—provide highest corrosion-resistance, accurate measure, convenient handling, durable service. Try METALSMITHS utensils and compare the value!

Write For Catalog—Price List

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Division of **Orange Roller Bearing Co., Inc.**
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FREE *samples of* **SHUTTLE FURS**

from our large stock of imported New Zealand, Brown, and Grey Opossum Hides. Also, we handle quality sheepskin hides, yarn and pad strips any width desired.

All strip fur individually boxed in 50 foot rolls for customer's convenience.

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Architects and Engineers for the Textile Industry

•

10 ROCKEFELLER PLAZA - NEW YORK 20, N. Y.
Boston Spartanburg Montreal

NEWS ABOUT *Men*

closed, has joined Newnan Cotton Mills on special assignment.

Arthur Martin, formerly associated with Bradford Dyeing Association, Montreal, Que., as plant manager, recently resigned to become Canadian representative of United Aniline Co., Boston, Mass.

Harold B. McCaskill has been promoted to foreman of polymer and spinning area of new May plant of E. I. du Pont de Nemours & Co., Camden, S. C.

Edward A. Mohn, vice president and general manager of Nolde & Horst plant at Womelsdorf, Pa., and **P. J. Lester Lincoln,** superintendent of company Womelsdorf plant, have resigned their positions. Both will join Pentagon Hosiery Co., Inc., Reading, Pa.

Robert L. Patrick, for last two years a field representative for Airmaid Hosiery Mills, Dallas, Tex., has been promoted to general sales manager. He succeeds **Charles Hancock,** who resigned.

J. P. Powell, superintendent of Erlanger Mills, Inc., Lexington, N. C., for past eight years, has resigned to become superintendent of Monarch Mills, Lockhart, S. C.

R. M. Pulley, formerly general overseer, has been made assistant superintendent of Clover, S. C., plant of American Thread Co. He has been with company since August, 1948.

James H. Purdy, Jr., has joined Pacific Mills as stylist on synthetic fabrics, rayon department. He formerly was with Deering, Milliken & Co., in similar capacity.

William H. Rhodes has been appointed superintendent of Guild-Northland Mills, Inc., Laconia, N. H., succeeding **Albert A. Parmentia.** Mr. Rhodes was previously manager of American Woolen Co.'s Globe Mill, Utica, N. Y.

Walter A. Robbins, Sr., is now with engineering department of Dan River Mills, Danville, Va. He was formerly with Columbia Mills, Minetto, N. Y.

Frank W. Saidis, formerly

GEORGE C. RAMEY, formerly with Springs Mills, has been appointed director of field sales for Dan River Mills, Inc., New York. Prior to his association with Springs Mills, Mr. Ramey held executive positions with American Cyanamid Co., Marshall Field & Co., and Forstmann Woolen Co.

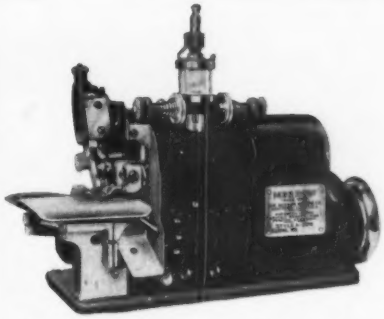
director of industrial engineering for Alexander Smith & Sons Carpet Co., Yonkers, N. Y., has been appointed to newly created post of director of mill operations. **William H. Cochrane,** former assistant general superintendent, has become director of quality control. **Oliver P. Beckwith** is assistant director of quality control, and **Frederick W. Klein,** production manager for the past year, has become director of production planning and control. **Murray D. Ewing** has reassumed his former duties as director of industrial relations.

William H. Scott has joined industrial and diversified fabrics division of Burlington Mills Corp., Greensboro, N. C.

J. S. Simmons, former assistant superintendent, has been named superintendent of Fullerton Cotton Mill, Inc., Newnan, Ga.

Andrew A. Smith has been appointed to new position of personnel superintendent of Waynesboro, Va., plant of E. I. du Pont de Nemours & Co., Inc. Mr. Smith was formerly with Du Pont company Alabama Ordnance Works, where he was assistant plant manager.

W. B. Smith has been appointed eastern branch manager of Kendall Mills, with



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Convenient Handling

Minimum Time-Out for Adjustment

or Repair—Low Upkeep Costs

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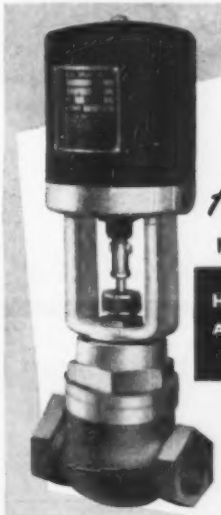
Needles

Economy Makers

ACME KNITTING MACHINE
& NEEDLE CO.

FRANKLIN, N. H.



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For Knitting or Weaving

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Combed Peeler or Sak, 10's—100's Ply

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Knitting Yarns

Combed, 14's—60's Carded, 8's—30's

Thread Division - Lawrenceburg, Kentucky

W. H. BUTTERFIELD, Vice President and Sales Manager

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Miss E. R. Abernathy	733 Chestnut Street	3101 W. Broad St.	222 W. Adams St.	Room 2006
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High Speed Warpers

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COST SYSTEMS
SPECIAL REPORTS
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RALPH E. LOPER CO.
GREENVILLE, S. C. FALL RIVER, MASS.

NEWS ABOUT Men

headquarters at company's New York office, with which he has been connected since 1935.

William F. Spaulding has been appointed assistant to president of William Skinner & Sons, Holyoke, Mass. He was formerly division sales manager and coordinator of production with Verney Corp.

Frank Stubbings has been named manager of Dublin, Va., dyeing and finishing plant of Burlington Mills Corp. Formerly Mr. Stubbings managed Sterling, Conn., installation of U. S. Finishing Co. **B. Keeber**, superintendent of Dublin mill, is being transferred to Greensboro, where he will work on a special assignment in Burlington's dye and finishing division.

Benjamin Thomas, Jr., superintendent of Textron, Inc., Suncook, N. H., has been appointed manager of company Suncook and Manchester, N. H., weaving plants.

William J. Thornley, who has been with Bachmann Uxbridge Worsted Co., Uxbridge, Mass., for past 27 years, has been elected to board of directors of company, succeeding the late Edward A. Robertson.

Wilton Todd, formerly connected with Kendall Co., and Newberry Textile Mills, Newberry, S. C., in managerial positions, has become associated with Montreal Cottons, Ltd., Valleyfield, Que., in an executive capacity.

Alfred C. Werner has resigned as vice president of Chadbourn Hosiery Mills, Inc., Charlotte, N. C.

R. E. GREGG has been appointed general sales manager of Kendall Mills Finishing Div., Walpole, Mass. Mr. Gregg has been with the company since 1930 and has been in charge of company New York branch office at 40 Worth St. for the past eight years. He will make his headquarters in Walpole.

E. F. Williams, agent at Assabet Mill of American Woolen Co., Maynard, Mass., has retired from company.

Horace Gray Williams, Chester, S. C., manager of order department of Springs Cotton Mills, Chester, has resigned and entered business for himself at Batesburg, S. C., as an accountant.

J. Howard Zachman, vice president and general manager of Voght Knitting Mills, McMinnville, Tenn., since 1946, has resigned to become assistant to president of Danville Knitting Mills, Danville, Va.

OBITUARY

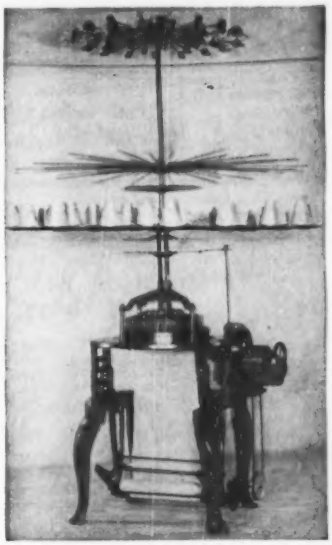
James T. Bowman, 96, founder of Ella Textile Mills, Shelby, N. C., died in August. He was president of the Union Trust Co. in Shelby at the time of his death and was believed to have been the oldest active banker in the country.

Charles S. Bromley, 67, a director of the Quaker Lace Co., Philadelphia, Pa., and president of the company hosiery division until his retirement in 1938, died recently.

William H. Cummings, 66, former manager of the D. E. Cummings Co., Newport, Me., until 1935, died recently of a heart attack. As an agent for the American Woolen Co., Mr. Cummings was in charge of the company's three mills in Skowhegan, Me., from 1917 to 1925.

Homer E. Garner, 46, operator of the H. E. Garner Co., Atlanta, Ga., died in August. Mr. Garner was with Reeves Pulley Co. in Atlanta before starting his own textile firm.

Joseph B. Kay, 59, president of J. B. Kay hosiery mills,



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SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines, Slides, Sinkers, Jacks, Guides or Flat Eyes, Slay and Mistress Points, Transfer Points or Quills, etc.

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HEAVY DUTY GEAR TYPE SEWING HEAD

for piece-end, or tacking woolen and worsted cloth. Motordrive —motor mounted on column, Strips cloth automatically. Can be equipped to make any length of stitch from 3/8" long down to 7 stitches per inch.

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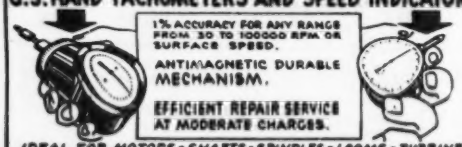
G.S. HAND TACHOMETERS AND SPEED INDICATORS



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Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.
Self-oiling and no grease can drop on the floor. Used for all kinds of fine yarns, wet or dry.
Bottoms finished 1⅜". Sides and ends finished 1¼", 1⅛", 1" or ⅞", whichever desired. Made from maple, poplar, cypress or fir lumber.
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For use on rayon, cotton and woolen material.
Dye-resistant and boil-proof, permanent, inexpensive, quick and easy to use.
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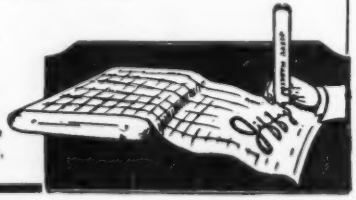

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GREENVILLE • SOUTH CAROLINA
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NEWS ABOUT Men

Kutztown, Pa., died recently. He had been in the hosiery business for the past 30 years and had operated the Kay mills since 1940.

John J. Kronenberg, 64, president of Wayne Knitting Mill, Fort Wayne, Ind., died recently. He had been associated with Wayne since 1932, when he joined the company as vice president and general manager.

John L. Latham, 59, president and founder of the Latham Cotton Co., Greensboro, N. C., died of a heart attack in August.

Edward Legge, 60, a partner in Percy A. Legge, selling agent for woolen and worsted spinning mills, New York, died recently. The son of the founder of the firm, he was in charge of company Boston, Mass., office.

Philip N. Newman, 55, a partner in D. Newman & Sons, Philadelphia, Pa., died recently.

John B. Powell, owner of Paris Woolen Mills, Stayton, Ore., died recently. Formerly vice president of Portland Woolen Mill, Portland, Ore., he was with that firm for 28 years before acquiring the Stayton mill in 1944.

Aldridge H. Vann, 70, for many years president of Sterling Cotton Mills, Franklinton, N. C., died in August.

J. A. R. Woehr, 51, a partner in Woehr & Thomas, Inc., Philadelphia, Pa., died recently.

Thomas L. Zimmerman, 74, retired president and former treasurer of Union Mfg. Co., Inc., Frederick, Md., died recently. Mr. Zimmerman had been with the firm for 57 years.

Alexander H. Kridel, 73, who retired recently as vice president of Bethlehem Silk Co., Bethlehem, Pa., died in August.

Oscar G. Parsley, 45, secretary of the Belle-Vue Mfg. Co., Hillsboro, N. C., died recently.

Martin A. Boger, Sr., 78, retired assistant secretary of Wiscassett Mills Co., Albemarle, N. C., died in August. Before his retirement he had been with the company for more than 48 years.

Emile L. Burlett, 71, executive with Stillwater Worsted Mills, Inc., Harrisville, R. I., until his retirement in 1946, died recently.

Anatole A. Cournoyer, 59, engineer for the past 35 years at the Webster plant of Cranston Print Works, Cranston, R. I., died recently.

James S. Hamilton, 65, traffic manager for American Woolen Co., died recently. He had been with the company for 34 years and was head of the traffic division for 15 years.

Leo V. Jackson, executive at Barre Wool Combing Co., S. Barre, Mass., died in August of injuries received in an airplane accident.

Nelson A. Koeppen, plant manager of Dunkirk and Silver Creek, N. Y., plants of Van Raalte Co., died recently.

Wilfred L. McMahon, 47, works manager and director of Hamilton Cotton Co., Hamilton, Ont., died recently.

Thomas F. Tibbett, 49, Midwestern sales representative for Celanese Corp. of America, died in August. He had been with the company for 21 years.

Henry E. Tillson, 71, salesman in the Philadelphia branch of General Dyestuff Corp., New York, died recently. A graduate of Lowell Textile Institute, he joined Kuttroff, Pickhardt & Co., predecessor to General Dyestuff, in 1918.

David E. Addy, 54, superintendent of the awning department of Graniteville Mills, Graniteville, S. C., died in August of a heart attack. He had been with the company for 25 years.

C. Walker McLean, 59, for 18 years superintendent of Phoenix Mill, Statesville, N. C., and later with Burlington Mills, now Seminole Mills, Statesville, died recently.

Edel M. Elliott, 56, area foreman for Hercules Powder Co., Hopewell, Va., for the past 15 years, died recently.

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CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John: Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures. Understand protects yarns like standard starches yet desizes completely in soap and water. Jim

Fine Equipment for Fine Mills

Style 28

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So smooth—so light—so easy running and so long lived.

A variety of caster types available.

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First Choice of the Textile Industry!

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McGRAW-HILL
PUBLICATIONS

HEADQUARTERS FOR INDUSTRIAL INFORMATION

Crown College Dyeing

(Continued from page 93)

This position brings the tops of the spindles to eye level. Gray yarn packages are trucked to the loading area and placed on the spindles. Packages are separated on the spindles by stainless-steel rings, and each stack of packages is held in place by a cap fastened by a threaded nut.

MONORAIL HOIST. When a carrier is fully loaded, a self-propelled monorail hoist lifts it and lowers it into the cylindrical pressure vat. Another carrier is placed at the loading area, and this carrier is loaded while the first batch is in process. The hoist travels on an elliptical track and serves the five pressure vats, the extractor, the dryers, and the loading area. It is possible with two 500-package machines and several 500-package carriers to have two batches of yarn in dye baths, one in extraction, five on the dryer, and several more in the gray, loaded and waiting.

After dye saturation, the dyed yarn is transferred by monorail to the extractor and afterward to the dryers. When yarn is dry, the carrier is moved to the loading area, and packages are removed from the spindles. So, in the Crown system there are only two handlings of packages. This system eliminates wet clothing and sloppy floors as a result of dripping packages, delay in placing the next batch of grey yarn on the dryers, and damage due to awkward handling.

REDESIGNED BUILDING. To install the new system, Mr. Dickson found it necessary to redesign a building. Instead of lowering dye vats and the extractor into pits, a section of the ceiling of a one-story warehouse was raised; and large windows were placed at the proper height, giving the building a monitor-style roof. The working area for machine operators is a built-up half deck walk-way with guard rails. This walk-way is so erected that the tops of pressure and expansion tanks are at breast height, and the deck allows ample headroom above the ground floor of the dyehouse.

All motors, pumps, and feed lines are set on the ground floor directly beneath the machines which they serve. To repair a motor or repack a pump, there is no unhandy fumbling or groping in a wet, semi-dark pit—as is the case in many older dyehouses.

A new filter house was erected at the rear of the dye house. A stream, which did not fail throughout New England's recent drought, delivers an

(Continued on page 278)

DYER WANTED

New modern plant in North Carolina has opening for a dyer with experience on Viscose and Acetate piece goods. State age, education, experience and salary desired.

P-6237, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED
MECHANICAL ENGINEER

Established textile machinery builder has an opening for man experienced on design of dyeing, finishing and printing equipment. State full qualifications and salary requirements.

JOHN VERDUIN MACHINE CORP.
351 Tenth Avenue Paterson 4, New Jersey

REPLIES (Box No.): Address to office nearest you
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SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

KNIT MECHANIC: Permanent position for man able to adjust and set-up Brinton, Wildman, Leighton, and Rib Sinker Top Machines. Minimum of 4 years experience required. Established nationally-known company located in the Mid-West. P-7644, Textile World.

WANTED ASSISTANT to eventually manage routing operations of dyeing and finishing service laboratory of rayon manufacturer. Degree and experience in dyeing and analytical chemistry preferred. Neatness and good personal habits, accuracy and aptitude for report writing essential. Salary and advancement commensurate with ability displayed. P-7764, Textile World.

FIXER WANTED for Tricot Knitting plant in Georgia. State age, experience, and other qualifying details, and salary expected. Indicate references. Stylewise Mills, Inc., 355 Fifth Avenue, New York 16, New York.

MECHANICAL ENGINEER with at least five years experience in the textile industry to become associated with textile research organization. Address P-7819, Textile World.

POSITIONS WANTED

LOOM FIXER who understands New S-6 looms very thoroughly. Wants position as fixer or overseer. PW-7512, Textile World.

POSITION WANTED: Foreman knit dept. 20 years experience seeking employment. Present plant discontinuing knit dept. Has 20 years experience on Wildman circular flat knit, and Scott & Williams 1 x 1 rib. Best of references furnished. PW-7779, Textile World.

RAYON AND Silk Throwster, with broad experience seeks employment as Superintendent of Throwing Plant, or assistant. PW-7670, Textile World.

WOOLEN CARDING Overseer looking for same in warmer climate down South or Southwest. Reply PW-7793, Textile World.

SPECIAL SERVICE

May we help you
with those difficult C-4 or S-6 looms? One of our specialists can get your mill started right. Write Master Loom Service, 604 Oak Ave., Fair Lawn, N. J.

WANTED

ANYTHING within reason that is wanted in the field served by Textile World can be quickly located through bringing it to the attention of thousands of men whose interest is assured because this is the business paper they read.

TECHNICIAN

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PW-7807, Textile World
330 W. 42nd St., New York 18, N. Y.

AVAILABLE

Asst. Supt. and Textile Technician. Heavy 5-6 Nylon and Filament Rayon experience with quality mill. Textile Institute graduate. Desires position as Supt. or Asst. Supt., Liaison man, or fabric development. Best references.

PW-7815 Textile World
330 W. 42nd St., New York 18, N. Y.

MEN WANTED

POSITIONS OPEN

We can place: MANAGERS and superintendents woolen cloth mills; supt. rayon weaving and throwing; supt. worsted yarn mill; screen printing plant executive; woolen yarn mill supt.; underwear supt.; supt. cotton yarn mill; purchasing agent; asst. supts. worsted, cotton, rayon and woolen mills; asst. supt. large finishing dept. woolens and worsteds; asst. supt. underwear mill; asst. supt. southern cotton mill; pile fabric-jacquard designer; woolen designer; chemists and chemical engineers $4,000-$8,000.

OVERSEERS FOR FOLLOWING DEPTS: woolen and worsted finishing; woolen carding; top dyeing, 2nd shift; cotton carding; rayon dyeing and finishing (So. Amer.); rayon weaving, 3rd shift; worsted dressing; garnetting; looping full fashioned hosiery; worsted-woolen weaving; cotton slashing, warping, drawing-in; worsted spinning; worsted drawing; washing and finishing rayon fabrics nights; wool picking; rayon-cotton piece goods dyeing; yarn-package dyeing; thread polishing; sweater cutting and finishing; woolen carding and spinning combined.

SECOND HANDS FOLLOWING DEPTS: woolen wet and dry finishing; woolen and cotton weaving for Penn.; cotton carding; worsted carding and combing; cotton piece goods dyeing; section hands worsted spinning and twisting.

SALESMEN and Demonstrators: finished cloth examiner with clothing or sponging house experience; designing engineer textile machinery; color mixers; slasher tender; laboratory assistant; card grinders; fixer Scott & Williams knit mach.; wool sorters; loom fixers; woolen mule fixers; sewing mach. fixers; jacquard loom fixer; full fashioned hos. fixers. We invite correspondence (confidential) with executives available for positions and with employers seeking new personnel.

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NEW ENGLAND CONCERN
MANUFACTURING
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EQUIPMENT WITH
NEW PRODUCTS
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TO CREATIVE
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330 W. 42nd St., New York 18, N. Y.

Plant chemist required for dyeing and finishing plant
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P-7509, Textile World
330 W. 42nd St., New York 18, N. Y.

(Additional Opportunity Advertising on page 278)

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1—Sargent 42" Picker Feed
1—Whitin 40" Cotton Card Feed (New)
1—Hunter 7 section Raw Stock Dryer
1—Sargent 48" Rag Duster
1—D. & F. 7' all iron Cone Duster
2—Schofield 48" automatic Duster (box)
2—P. & S. 30" Ceiling Condensers
1—P. & S. 36" Ceiling Condenser
1—D. & F. 48" Fearnaught Mixing Picker
1—Schofield, Hard Waste Picker 18"x30"
1—Dodge Undershot Shoddy Picker
1—Schofield 42" Carding Hair Picker
1—S.F. 36" Lumper, ball bearing
1—Hunter 3 cyl. Garnett 30"x48"
2—Garnett Breasts, 16" x 60"

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UNIVERSAL #50 & #90 WINDERS REBUILT TO ORDER

1—Universal 80 G.F. 96 sp. Cone Winder
1—Foster, Mod. 101, 100 sp. Cone Winder
1—Foster Mod. 12 Cone Winder, 40 sp.
3—J. & B. Jackwinders
1—Lindsay Hyde Skein Reel (40 sp.)
2—Whitin Quillers 2½" Gauge (long chain)

2—Piece Goods Carbonizers and Dryers

WARPING AND WEAVING

4—D. & F. or Altemus Warpers—rebuilt to order—82"—120"
1—Cocker Rebeamer—60" beams—New
1—Globe Ball Warper & Creels
2—Altemus Long Chain Beamers
60,000 8" aut. Bobbins
4—C. & K. 92" 4x1 automatic Looms
4—C. & K. 82" 4x1 automatic Looms
12—C. & K. 82" (4x4) Box Looms
1—Barber-Colman Warp Tying Mach., Model LS
2—L. & G. Chenile Cutters
1—Terrell Bobbin Stripper

FINISHING

1—Perkins Cloth Filer, 72" traverse
1—Paper Makers Felt Gig, 170"
1—Hunter No. 10 Fulling Mill
1—pr. Butterworth Squeeze Rolls, 40"
1—Amico 60" mtr. dr. Extractor
1—Gessner Steaming Machine (Cloth)
1—P. & W. 66" Double Shear
1—P. & W. 66" Plush Shear
1—Gessner 68" Heavy Duty Press
1—P. & W. 66" 4 cyl. Brush & Sander
2—Teasle Gig's, double cylinder
2—Rope Soaping Machines
1—Yorkshire Crab 72"—3 bowl
1—P. & S. Truck Skein Dryer
1—P. & W. Lancashire 93" Cloth Boarding Machine
1—P. & W. 66" Cloth Doubler & Meas. Mach.
1—Windle 60" Cloth Doubler & Meas. Mach.

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Box 1222
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FOR SALE

4—Sets Woolen Cards 48 x 48
2—Sets Mules 336 Spindles Each, Davis & Furber 2¼" Gauge—14 Drum with Counter Shafts
2—Ring Doffers 12" and 16"—48 Ends
500—48" Jack Spools 7" and 8" Fibre Heads

Prices Right for Quick Sale.

THE ASSOCIATED TEXTILES
68 Hadwin Street Central Falls, R. I.

Approx. 70,000 gals. Olive Drab fireproofing and finishing compounds and miscellaneous unidentified chemicals.

In 50 and 55 gal. steel drums. This material has a gov't acquisition cost of more than $300,000. Will sell entire lot "As Is" for 25¢ a gal. f.o.b. Salem.

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FOR SALE

40 M Filling Bobbins 7⅜".
35 M Filling Bobbins 8¾".
1200 Worsted Drawing Bobbins 9 x 14.
1 M Worsted Drawing Bobbins 8 x 14.
6 M Twister Bobbins 6 x 2 x 1¾.
300 M ⅜ eye Flat Steel Heddles—12".
230 M Flat Steel Heddles—14".
1,250 M Flat Steel Heddles—11".
1,085 46" frames for 12½" heddles.
375 45½" frames for 12" heddles.
378 45" frames for 12½" heddles.
240 53½" frames for 12" heddles.
970 46" frames for 11" heddles.

L. J. McCAFFREY & SON, INC.
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FOR SALE

Four—3 cylinder 48x48 cards with triple rub condenser, breast, now operating (excellent condition). Low price for quick sale.

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KNITTING and TEXTILE MACHINERY
BOUGHT and SOLD
PLANT LIQUIDATIONS and APPRAISALS

(*Continued from page 277*)

adequate supply of clean water. The water, after filtering and treating is raised to a 20,000-gal. standpipe.

FILTERED AIR. In the extractor, which is similar to the dyevats, excess dye liquor is removed from the yarn by forcing filtered, heated air through the hollow spindles and perforations and outward through the wet packages.

The drying system consists of five ports which are gate-valves in a dry chamber supplied by a 6-in. air line on the ground floor. The valves are hand operated, and any number from one to five can be used simultaneously.

A loaded carrier is taken by the monorail from the extractor and lowered to the open mouth of a valve. The gate-valve is then opened; and heated, dust-free air moves into the base of the carrier and through the spindles. The perforated tubes on which the yarn is wound permit the forced draft to dry the yarn from the center outward.

Mr. Ambler states that one of the most important factors in the drying operation is filtered air. Light shades will become dingy or dull if the drying air is not pure. The Crown air-drying system uses the Precipitron, a high-frequency electric filter, which produces 99% dust-free air. A three-stage blower propelled by a 75-hp. motor at 3,560 rpm. drives the filtered air into a sealed heating chamber and then through the air line.

ALL NEW EQUIPMENT. Of the five package-dyeing machines at Crown, two are of 500-package capacity, one of 300, and one of 100. A small unit of 12-package size prepares sample lots. The expansion tanks, in which dye baths are prepared, are equipped with three feeds: steam, warm water, and cold water. This system helps operators to raise or lower liquid temperatures rapidly.

The laboratory has all the latest equipment for analyzing and proving dye lots. An electrically controlled 1-lb. package machine is used to dye a full-sized package of yarn after the formula has been worked out in small-skein lots in beaker tests. All dyed yarns undergo standard AATCC test procedures.

Machine operators, when starting a new dye lot, are given typewritten instructions showing the step by step process. For instance, "Scour, ½ hr.; rinse, ½ hr.; add ½ dyestuff from expansion tank at X degrees; run 3-2 (3 times in one direction—2 times reversed) ½ hr., etc." The sequence has been plotted in the laboratory and

(*Continued on page 280*)

MACHINERY LIQUIDATING COMPANY

TYPICAL ⟨MLC⟩ ITEMS

READY FOR DELIVERY

ACT NOW—CERTIFIED VALUES

1—58" 2-cylinder Back Filling Machine
1—Economy Steel Baler, motor driven
1—6 spindle Sargent Baller
2—42" 2-roll Batchers, with cut-off knives
2—63" and 68" Batchers
1—Blower and Unit Heater motor driven
2—#8 Sturtevant Paddle Type Blowers
1—36" Saco Lowell Bale Breaker
1—80" Van Vlaanderen Button Breaker
1—82" 2-cylinder Ghristie Brusher
1—72" 2-cylinder Curtis & Marble Brushing Machine
1—42" 2-roll Hydraulic Schreiner Calender, complete with pump, accumulator and motor
1—43" Kleinewefers 3-roll Calender
1—48" x 24" Textile Calender with dry cans
2—48x48" D&F 3-cylinder Cards
2—48x60" wide D&F 3-cylinder all Iron Card Sets
1—54" x 60" Davis & Furber 2-cylinder Shoddy Card
4—48"x60" D&F 3-cylinder all Iron Cards
3—New James Smith Noble Combs
6—8-head Whitin D-2 Combers
1 Ribbon Lapper
1 Sliver Lapper
12—Whitin D-2 Combers 8 heads
2 Whitin Sliver Lappers
2 Whitin Ribbon Lappers
2—4-head Whitin Ribbon Laps
2—Whitin 4-head Ribbon Lappers
1—72" Hartman 4 bank Single Rub Tape Condenser
1—Saco Lowell Condenser
1—36" Chenille Cutting Machine with exhaust blower, dust collector, motorized (extra blade)
5—Curtis & Marble Reversible Flock Cutters
2—Stokes Fiber Cutters
1—65" Curtis & Marble Dewing Machine
1—66" P&W Springfield Doubling & Open Rolling Machine with yardage counter 1947
12—Deliveries Whitin Drawing
16—Deliveries Saco Lowell Drawing
1—Set of 7—44" tinned iron Dry Cans, with vertical frame and ceiling folder
1—Set of 9—50" tinned iron Dry Cans, with horizontal frame, Mycock expander, ceiling folder.
1—Set of 38—109" Copper Dry Cans, motorized with motor and Reeves drive
1—72" P&S 3 section Loop Dryer
1—90 Pole P&S Skein Dryer
1—Hurricane Class D, 3 fan, six section Loop Dryer
2—Hurricane Dryers to dry spring dyed packages of yarn
1—Grinnell Dryer
1—90 yd., 66" wire Heathcote Return Tenter Dryer
1—Phila. Pin Tenter Dryer, 44" to 71" opening
2—36" Gerry Waste Dusters
1—80" Smith & Furbush Cane Duster with condenser
2—48" Van Vlaanderen S/S lined Dye Jiggers
3—50½" Werner S/S lined Dye Jiggers
2—50-60 lb. Smith Drum Rotary Dyeing Machines
2—500 lb. Hussong copper basket Raw Stock Dyeing Machines with air hoist
1—62 arm Twin Type Hydraulic (15 units) Buhlman Dyeing Machine Complete
1—King & Gerber Embosser
1—18" Self-Balancing Copper Basket Extractor
1—26" Tolhurst Copper Basket Extractor
1—32" Tolhurst Copper Basket Extractor
3—40" Tolhurst Extractors
1—42" Fletcher Extractor
1—48" lead lined Curb Extractor
3—60" Tolhurst copper basket Extractors
1—60" Amico Copper Basket Extractor, motor driven
1—60" Sargent Picker Feed
22—60" Bramwell Card Feeds
1—Textile Finishing Machine for narrow fabrics with 5 copper dry cans, quetch and take-up
2—40" C&M Folders
1—Rodney Hunt M-3 2-string Fulling Mill
4—3 head Prince Smith open type Balling Head Gill Boxes
2—60" Hunter 3-cylinder Garnetts
10—44½" to 53" Grinders
1—72" Furbush Card Grinder with stand
4—Foxwell Cloth Guiders
1—40" C&M Inspecting Tables
30—45" R.S. C&K 2x1 Automatic Looms, motor driven
16—48" C&K 2x1 Auto. Looms, 12 Harness, Motor driven
10—52" R.S. C&K 2x1 Silk Looms, 16 harness, motor driven
150—48", 50", 52" R.S. C&K Looms, 20 harness, Motor driven
3—60" R.S. C&K 4x1 Box Looms with Jacquards, Motor dr.
8—72" R.S. C&K W-1 4x1 Automatic Looms, 25 harness, motor drives
8—80" R.S. C&K 2x1 Auto. Looms, 8 harness Cam, motor driven
14—82" C&K 2x1, 8 harness cam Looms, motorized
10—82" C&K 4x1 Looms, 25 harness, Motor dr.
40—82" C&K 2x1 Auto. Looms, 8 harness, intermediate head motor driven
8—100" C&K 2x2 Box Looms
6—110" C&K 4x4 Box Looms
4—110" C&K 4x1 Veribest Looms
1—[illegible]" Draper Model K Loom, 20 harness dobby
2—43½" Draper Model E Looms with 2 harness roller tops
22—43½" R.S. Draper Model E Looms
12—53½" R.S. Draper Model E Looms with spring tops, motor driven, equipped with press rolls, for rayon
286—66½" R.S. Draper Model E Looms; 246 with roller tops and 40 with 12 harness dobbies, all motor driven
87—67½" R.S. Draper Model E Looms, some equipped with roller tops and some with Lacey tops, all motor driven
30—82" R.S. Draper Modified D 2x1 Looms, 16 Harness, Motor driven
16—43" R.S. Stafford Automatic 16 harness dobby Looms, motorized
16—43" R.S. Stafford Automatic Cam Looms, motorized
1—30" Schofield Lumper
1—42" Starch Mangle with tank
1—44" Starch Mangle with tank
3—66" x 23" P&W AWC Measuring Machines, one machine motorized
2—240 spindle J&B 1-7/8" gauge Mules
2—240 spindle J&B 2" gauge Mules
6—312 spindle J&B 2-1/8" gauge Mules
1—320 spindle J&B 1944 3-1/8" gauge Giant Package Mule
1—360 spindle J&B 1947 2½" gauge Giant Package Mule
1—66" Gessner 16-roll Single Acting Napper
1—72" Gessner 18-roll Single Acting Napper
1—80" Davis & Furber 20-roll Single Acting Napper
1—80" P&W 16-roll Single Acting Napper
1—80" Woonsocket 24-roll Double Acting Napper
1—New 86" 36-roll Double Acting Napper
1—Dobson & Barlow Vertical Opener with Kitson Hopper Feeder, with extended apron
1—30" x 30" Mezzera Wool Opener
4—45" two and three roll Padders
1—44" two roll Padder
1—50" two roll Padder
1—75" three roll Padder
1—36" Sargent Burr Picker
1—40" Saco Lowell 2-beater Breaker Picker
1—48" Sargent Duplex Burr Picker
1—48" C&M "Parkhurst" Double Burr Cyl. Picker
2—Bywater Polishing Machines
1—Bushnell Cloth Press
1—Skein Package Presses
1—62" Gessner Single Bed Apron Cloth Press
1—65" Gessner and Voelker Double Bed Cloth Presses
3—42" Textile 4-color Printing Machines
1—43-½" Rice, Barton & Fales 5-color Printing Machine
1—44" Rice, Barton & Fales 7-color Printing Machine
1—#4 Nash Vacuum Pump with vacuum slot and 20 HP motor
4—50 spindle Lindsay-Hyde Adjustable Skein Reels
4—68 spindle Saco Lowell 12x6 Roving Frames
1—27" x 46" Sargent Scouring Unit
1—60" Parks & Woolson Shear with motor
2—60" Parks & Woolson Single Blade Shears (one 8½ tooth, one smooth tooth)
1—60" Parks & Woolson Plush Shear
1—63" Shear with V-belt motor drive
5—(Approx.) 66½" Parks & Woolson Double Blade Shears
1—36" New 68½" C&M Type W Shear
1—70" Curtis & Marble Double Blade Shear
1—80½" Parks & Woolson Single Blade Shear
1—68" Parks & Woolson Model A Double Blade Shear
1—42" Textile 4-burner Gas Singer, 1925
1—Saco Lowell 1924, 5' and 7' cylinder Slasher
1—67½" Cotton Slasher, 5' and 7' cylinders, equipped with Brown Controls
1—32" Knife Inman Mfg. Co. Slitter
1—42" 20 knife Ireland Slitting Machine
2—90 spindle Whitin 12x6 Slubbers
2—72 spindle Saco Lowell 11x3½ Slubbers
2—180 spindle Whitin Model A 3" ring Spinning Frames
2—120 spindle D&F Model E 6½" Pot Spinning Frames
1—Worcester Warp Compressor Spooler
3—140 sp. Barber Colman Automatic Spoolers, Model KK, 1936
2—64" W&J 48" Tenter Frames, with brass top opening clips
1—60" Butterworth Clip Tenter Frame with top opening brass clips
1—70" Textile Finish. Machine Co. 140" wide Pin Tenter and Drying Frame
1—70" King & Gerber Tubing Machine
1—96" W&J 48" Tenter Frame with brass top opening clips
6—100 spindle Atwood 5-B Twisters, swing spindles
1—80 spindle Howard & Bullough 4½" ring band driven Twister
1—144 spindle Whitin 4½" gauge, 3½" ring, band driven Twister
1—144 spindle H&B Twister, 6" gauge, 4½" ring, V-Belt drive.
4—180 spindle Draper 3½" gauge, 2½" ring, band driven Twisters
2—280 spindle Saco Lowell 3½" rings, tape drive Trap Twister, rebuilt 1947
1—220 spindle, 2¼" ring, 3" gauge H&B band driven Twister

COMPLETE PIECE DYE UNIT

Consisting of Two S/S Tru-Shade Dyeing Machines Stainless Steel Fulling Mill. Finishing Machine, Etc. All Late Type Equipment.

MILLS

COMPLETE NARROW FABRIC WEAVING MILL WITH 8 LOOMS, WINDER, QUILLER, WARPERS AND ALL SUPPLIES
COMPLETE DRAPERY WEAVING MILL WITH 30 LOOMS.
COMPLETE DRAPERY JACQUARD MILL WITH 24 LOOMS.
COMPLETE FLAX TOW GILL SPINNING UNIT.

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3 Johnson Sizers, 66" wide—5 Can & 3 Can, 66" wide—7 Can, 66" wide Silk System.

1 5 Bowl Scouring Train and Dryer.

LOOMS

50 C & K 2x1 52" R. S.
14 Draper Looms 80½" R. S.
18 C & K 2x1 Automatic 72" R. S.
16 C & K 4x4 72" R. S.
1 C & K 4x1 Automatic 56" R. S.
12 Staffords 2x1 53" R. S.
2 C & K 4x4 48" R. S.
56 C & K 4x1 56" R. S.
8 C & K 4x4 54" R. S.
5 C & K 2x1 64" R. S.
6 C & K 110" R. S. 4x4
4 C & K 100" R. S. 4x4
4 C & K 82" R. S. 4x1 Automatic

DYEING MACHINERY

1 Textile Tenter Frame 52" wide 40' long
1 Butterworth T.F. 80'
4 Three (3) Roll Padders 45"
1 Butterworth 44 Can Dryer 50" Wide
1 60" Perkins Batcher
3 Werner Jiggs 50" S.S. Lined

200—½ H.P., 3 Phase Motors, 220 Volts

SILK THROWING MACHINERY

4 Atwood 5B Twisters
14 Atwood Single Deck Utility Spinners
4 Universal Coners #50
8 Sipp Warpers
20 #90 Universals 8 Sipp Winders

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Triangle Offers

1—BALER—Champion Power Baler #2 Size
1—CALENDER 63" 4 paper 1 steel rolls
1—CRAB—Butterworth 2 bowl Yorkshire 66"
1—DRESSING REEL UNIT D&F 92" Pinless
1—DRYER Proctor 4 unit 8' wide, all stainless steel, with feeder
1—DYEING Machine, continuous type, 7 nips, rolls 40" face, with booster tank
1—5 CAN Ribbon Finishing Machine
6—DYE JIGGS SS lined Morrison 50-80"
200—LOOMS, Draper Model "C" 42"-44" cloth
24—LOOMS, C&K Auto. 2x1 54" Gem
68—LOOMS, Draper Model "X" Cam
16—LOOMS, C&K S-6 54", 1948
30—LOOMS, C&K S-3 52", 54", 56"
20—56" C&K, 4x4 Box
18—62" C&K, 4x4 Box
14—LOOMS, C&K C-4 68" new, convertible
20—LOOMS, C&K Veribest 82" 4x1, 25 harn.
8—WEBBING LOOMS 15'8 S&U 28 spaces
3—MANGLES, 3 roll 65" face 2 rubber 1 brass rolls each
48—LOOM MOTORS, 1½ & 1¾ HP 550 volt
1—SLASHER, Johnson 5 drum 68" wide
1—WASHER, 8 bowl, Butterworth 80" width
1—WASHER, Riggs & Lombard 10' cloth washer

LOOMS WANTED

200—Model "XD" looms 44" cloth
300—Model "XD" looms 46" cloth
20—15'8" Ribbon Looms

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TEXTILE AUXILIARIES

SPECIAL OFFERINGS THIS MONTH

286—Model E Draper, motor driven, 550 volt, ½ h.p., LOOMS, 58½" reed space, 52" cloth, 40 with 12 harness dobbies, 246 with roller tops, midget feelers, Stafford cutters, Roper letoff, 4 bank electric stop motions, 8" bobbins, side filling fork, 2 shift pick counter, including heddles, drop wires, and 2 harness frames, plus 1¼ beam, 54' x 20 per loom

8—Cleveland 48x48 all iron cylinders Worsted Cards, with balling heads

15-17 ORMSBEE AVENUE TEL. DEXTER {1-9650 1-8837} WAREHOUSE: 44 CROSS ST.

PROVIDENCE, R. I.

(Continued from page 278)

proved on the 1-lb. package machines. The operator has only to be attentive to obtain perfect results.

The new Crown College dyehouse will supply dyed yarns for all Axelrod mills, worsteds for the Airedale mill, cottons for Wamsutta, and rayons and blends for Crown.

The blends are the problem children of the yarn family; but Mr. Ambler has perfected many formulas in the new laboratory, some of them requiring six different colors to make a dye with an affinity for rayon and wool blends dyed in one bath.

Slasher Take-Up

(Continued from page 109)

pitch single-roller chain. A 9-tooth sprocket was placed on the motor shaft, which in turn drove to a 36-tooth sprocket on a jack shaft. A 9-tooth sprocket on the jack shaft drove the 36-tooth sprocket that replaced the old friction drive on the warp-beam shaft.

We did not expect this experimental drive to reach the heights of perfection obtainable from the multi-motor drive. However, the difference between the old-fashioned disk-friction drive and the multi-motor drive was so great that results midway between the two proved satisfactory. The tension was much more uniform over the entire beam size than we had expected. Indeed, the results were so satisfactory that no attempt was made to compensate for the resultant variations in beam diameter, a job which could very easily have been done.

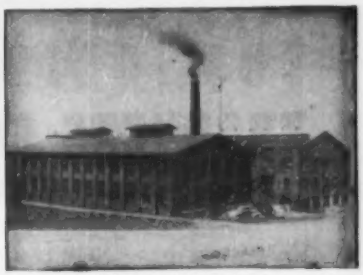
In practice, it was found that by carrying about 2.4 amp. of direct current at a potential of 19 v. on the clutch throughout the operation, variation in tension over the entire beam range was recorded on a yarn tensionmeter as only 5 grams. Any desired tension could be obtained by adjusting the hand rheostat. A limit switch was placed on the shipper rod so as automatically to cut in some of the rheostat resistance at jogging speeds and stops. This resistance was shunted out instantly on shifting up to high speed.

The drive has been running very satisfactorily for about two years. Uniform control of tension is maintained in beam winding with no trouble or attention. The yarn numbers run on the slasher vary from 12s to 28s, and the number of ends per beam range from 3,000 to 7,000. Beams are 70 in. wide, and have 26-in. diameter heads.

A patent has been applied for, covering the drive, and assignment has been made to Verney Corp.

Executive Offices and New York Warehouse

McDOWELL ASSOCIATES INC.



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CARDING, SPINNING AND WEAVING

150M AUTOMATIC BOBBINS 8¾"
100M BOBBINS filling, plain, 8¾"
6 RUF BALLING MACHINES, 16 spdls. ea.
1 D&F BREAST 72"x18" dia. cloth metallic wire
1 D&F NEW SINGLE CYLINDER IRON CARD 80x40
6 WOOL CARDS 3 cyl. 48"x48" ring doffers
2 WOOL CARDS 4 cyl. 80"x48" wide, tape condensers
3 T-W NOBLE COMBS, 65" rack, S bar
2 D&F 60" RUB CONDENSERS 20" doffers
1 CASHIKO 48" TAPE CONDENSER 112 ends
1 SARGENT RAG DUSTER model #829
1 S&F CONE DUSTER 80" with condenser
; GILL BOX 2 can single head
2 GILL BOXES 2 spdl. 75% intersecting
7 GILL BOXES single head intersecting
48 C&K LOOMS S-3 type, 54" 2x1 auto.
32 C&K LOOMS 82" auto. 4x1, 25 harn.
4 C&K 82" LOOMS, 4x4 box, 25 harn.
40 C&K LOOMS 82" auto. 2x1, 8 harn.
8 C&K 92" LOOMS, 4x4, 25 harn.
12 C&K 92" LOOMS, auto. 4x1, 25 harn.
4 C&K 100" LOOMS, auto. 4x1, 25 harn.
7 C&K 110" LOOMS, auto. 4x1, 25 harn.
1 GERRY B.B. LUMPER, 44"
8 D&F MULES, large package, 360 spdls. 2½" gauge
6 P&S CAP SPINNING FRAMES, 200 spdls. ea.
2 D&F WOOL SPINNING FRAMES, model E, 120 spdls. ea. 6½" gauge
2 P&S TWISTERS tape drive, 200 spdls. ea. 4½" gauge
2 D&F WARP REELS, pin type, beamer, hack stand, etc.
3 FOSTER model #102 CONE WINDERS, 80 spdls. ea.
4 ABBOTT CONE WINDERS model #64, 80 spdls. ea.

COMPLETE WOOLEN BLANKET WEAVING AND FINISHING MILL

Consisting of:

4 C&K 100" auto. Looms, 25 har.
1 D&F 80" D.A. 24 roll Napper
1 Washer 3 string
1 Fulling Mill
1 Dye Kettle 3 string
1 Extractor 40"

REBUILT AND GUARANTEED

1 P&W STEAM BRUSH, 2 roll 66"
1 D. GESSNER SEMIDECATUR 72"x36"
1 P&W DEWING MACHINE 66"
1 P&W COMBINATION DOUBLING & OPEN ROLLING MACHINE, 66"
2 P&W DOUBLERS AND WINDERS 66"-72"
1 AMICO EXTRACTOR 72", V-belt underneath drive
1 C&M ATLAS #2 PICKER FEED 54"
2 E&H CLOTH FOLDERS 1 yd. 58"-60"
1 D&F NAPPER GRINDER 90"
2 C&M INSPECTING & WINDING MACHINES, 60"-100"
1 D&F KNIT GOODS NAPPER, 20 roll 80"
1 D&F D.A. NAPPER 24 roll 80"
1 D. GESSNER D.A. NAPPER 18 roll 80"
1 WOONSOCKET B.B., D.A. NAPPER 24 roll 86"
1 WOONSOCKET B.B. NAPPER S.A., 20 roll 90"
3 P & W PERCHES, single roll 66"-80"-90"
2 WERNER POWER PERCHES 93½"
1 SARGENT BURR PICKER 40" with fan
2 C&M FEARNAUGHT PICKERS, 48"x48" with hopper feeds
2 D. GESSNER ROTARY STEAM PRESSES 66"
3 VAN VLAANDEREN QUETCHES 2 roll, 50"-62"-68"
1 REEVES #3 B.B. enclosed DRIVE
1 DINSMORE SEWING MACHINE ROTARY, MERROW HEAD
12 BIRCH CORONATION SEWING MACHINES, rotary foot power
3 DINSMORE SEWING MACHINES, railway 52"-56"-60"
1 P&W AUTOMATIC SHEAR 4 bl. 60"
1 C&M SINGLE BLADE SHEAR, 66½"
2 C&M DOUBLE BLADE SHEARS 66½"
2 P&W DOUBLE BLADE SHEARS 66½" model B
2 P&W DOUBLE BLADE SHEARS 66½" model A
1 C&M SHEARING, STEAMING & BRUSHING UNIT hooked in tandem—66½"
1 C&M TACKING MACHINE 90", Singer Sewing Head
2 C&M CLOTH WINDERS, 50"-60"
1 S&L CONE WINDER 16 sp.
1 FOSTER SKEIN WINDER, 40 spdls. cones and tubes
2 CAMPBELL & CLUTE BOTTLE WINDERS, 40 spdls. ea.

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1 TEXTILE CALENDER 3 roll 83"
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1 YORKSHIRE CRABB 2 bowl 72"
1 WINDLE DOUBLING, WINDING & MEASURING MACHINE 80"
1 NATIONAL LOOP DRYER with revolv. stick, 1948 model 78"
1 P&S PIN DRYER 72" holding 50 yds.
1 SET OF 21 DRY CANS, copper and tinned steel 72"x23"
1 SET OF 6 DRY CANS, copper tinned 72"x36"
1 SET OF 21 DRY CANS, tinned steel 74"x23"
1 SET OF 31 DRY CANS, copper and tinned steel 87"x23"
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1 SAMPLE S.S. DYE KETTLE 2 compart. 30" wide
1 SCRIBNER S.S. RAW STOCK PRESSURE DYE KETTLE, approx. 500 lbs.
1 WERNER EXAMINING MACHINE 72" forward & reverse
2 HUNTER FULLING MILLS #10 double compart.
1 S.D. SKEIN MERCERIZING MACHINE 24 pole 54" skein
1 McNAUGHT SCOURING UNIT 4 bowl with Sargeant Dryer
1 BIRCH SCUTCHER 60" with detwister
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1—H&B condenser
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2—H&B 40" breaker pickers
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11—H&B 11x5½ slubbers
2—H&B 10x5 slubbers
8—Woonsocket 10x5 intermediates
18—H&B 9x4½ intermediates
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37—Woonsocket 7x3½ speeders
12—Whitin 7x3½ speeders

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46—H&B spinning frames, 3½" gauge, 2" ring, band drive, regular draft; 14 frames 228 sp., 14-204 sp., 12-252 sp., 6-216 sp.
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50—Warp beams 30" heads
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570—Same as above, 41½" cloth width, 28 without leno motion
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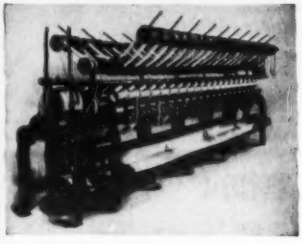

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100 spindle tape drive, Saco-Lowell Model UA 42 wet twister. Gauge 4-1/4", traverse 7-1/2" with two sets of rings 3½" diameter x 3/8" high and 3-7/8" diameter x 1" high latter Eadie. Creel accommodating six bobbin high. Reasonably priced. Located in Conn.
FS-7801, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED TO BUY
3 PLUSH LOOMS
60" wide
good running condition for weaving cotton velour
Box 180, Real Service, 110 W. 34 St., N. Y.

FOR SALE
Reasonable, new, Junior model **Johnson Rayon Skein and Cake Soaking Machine** with pump, regulator, reversing switch.
THE FORAM CORP.
76 Beaver St. — New York 5, N. Y.

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Bought—Sold—Traded
THE YARN EXCHANGE INC.
450-7th Ave., N. Y. — LA 4-5536

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BOX NUMBER
When answering the classified advertisements in this magazine don't forget to put the box number on your envelope. It is our only means of identifying the advertisement you are answering.

OPENING AND SPINNING

2—Kitson #4 Bale Breakers
17—Mason Spinning Frames w/Whitin L.D. 252 spdls. 3¼" ga., 1⅜" ring.
1—S.L. F4 Bale Breaker w/vertical opener
1—Schoffield Rag Picker
4—H&B Drawing Frames, 5 del. 1936
1—P&S Garnett, 60" wide w/feeder
12—Whitin Speeders 7x3½, 184 spdls.
1—H&B Vertical Opener
1—H&B 40" Single Process Picker
1—D&F Picker 48", 1944
2—S.L. Aldrich Single Process Pickers
20—Mason Spinning Frames, 272 spdls., 1½" ring
36—Whitin Spinning Frames, 288 spdls., 1½" ring
7—Whitin Slubbers, 12x6, 60 spdls.
3—Duesberg 48" Peraltas, 1944

DYEING AND PRINTING

2—Rice, Barton & Fales Print Machines, 8 colors, 64"
1—Rice, Barton & Fales Print Machine, 8 colors, 54"
1—Rice, Barton & Fales Print Machine, 7 colors, 45"
1—Rice, Barton & Fales Print Machine, 5 colors, 42"
1—Rice, Barton & Fales Print Machine, 4 colors, 64"
1—Textile ager, 30' long, 50" width
1—Textile ager, 24' long, 54" width
1—Greige Washer, 6 sections with 14 dry cans
1—Perkins Hydraulic Calender, 50", 3 rolls, 60 ton
1—Textile Tenter Frame, 60'x60"
1—Van Vlaanderen Tenter Frame 20'x60"
1—Winsor & Jerauld Tenter Frame 40'x54"
2—Dyebecks, stainless steel, 12' complete
2—Dyebecks, stainless steel, 6' complete

SLASHING & WINDING

1—Lowell 2 cylinder Slasher, 5'&7', 62" width
1—Cohoes 2 cylinder Slasher, 5'&7', 62" width
24—Universal #90 Quillers, 20 spindles
10—Universal #50 Winders, 6 spindles
2—Foster Model 102 B, 100 spindles, tube winders

LOOMS

560—C&K "Cotton King", 4x1 auto. 40" cloth
130—C&K "Gingham", 4x1 auto. 40" cloth
100—Draper Model E, 40", belt
100—Draper Model E, 52", belt

COMPLETE MILLS

Cotton Yarn Mill, 15,000 spdls. (5000 L.D.)
Cotton Cloth Mill, 12,500 spdls. 265 looms
Print Cloth Mill, 27,000 spdls. 630 looms
Woolen & Worsted Spinning, Weaving & Finishing Plant
Cotton Piece Dye Plant
Narrow Fabric Weaving Mill, 78 looms

REMEMBER *Republic Textile* EQUIPMENT COMPANY
40 WORTH STREET NEW YORK CITY
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REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

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Tel. Sh 2-5467-8

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Warpers • Winders • Quillers
Looms

FOR SALE

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1 WHITIN 120-spindle Wool Spinning Frame, Model E, 5½" ga., 4½" ring, tape drive.

Whitehead Supply & Engineering Company
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FOR SALE
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Consisting of:
BREAKER AND FINISHER CARDS WITH FEEDERS
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(OPERATED ABOUT ONE YEAR)
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Phone 4-5546

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FOR SALE

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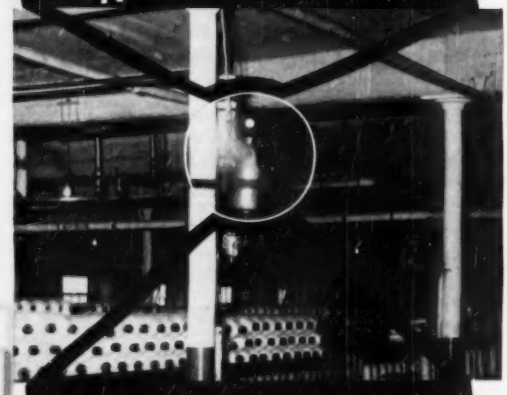
1—50" Semi Decator P. W. with blanket
1—60" 3 Roll Calender Morrison
1—72" Open Washer 3 sections
1—52" 2 Roll Quetch Vari motor drive, expander and extra rubber roll
1—48" & 26" Extractors copper basket
15—Tricot Machines 84" wide, Reconditioned like new 76" & 80" Copper Dry Cans, Syphon Type
1—64" New Beamer
1—Gimp Machine 66 Spindles, High Speed
1—40" E. H. Flat Folder
1—50" Padder Morrison
1—Automatic Brinell Hardness Tester
1—Lydon Hardening Oven, 4 Comp.
1—48" Hermas Inspection Machine
1—60" Ager

A&M BLANK CO., INC.

49 STATE STREET Sherwood 2-1367
PATERSON, N. J. Lambert 3-9523

Question: What about Unit Type Steam Humidifiers?



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BUILT BY THE MAKERS OF ARMSTRONG STEAM TRAPS

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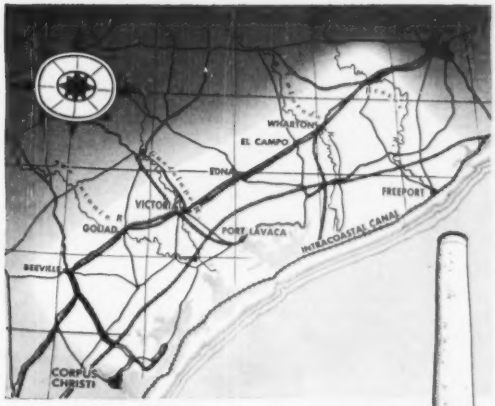

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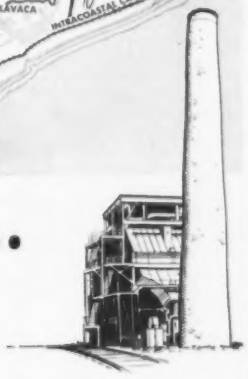

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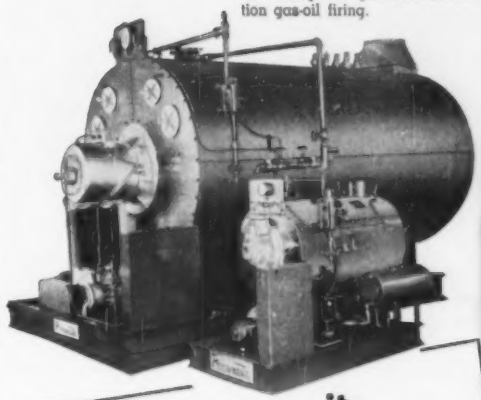

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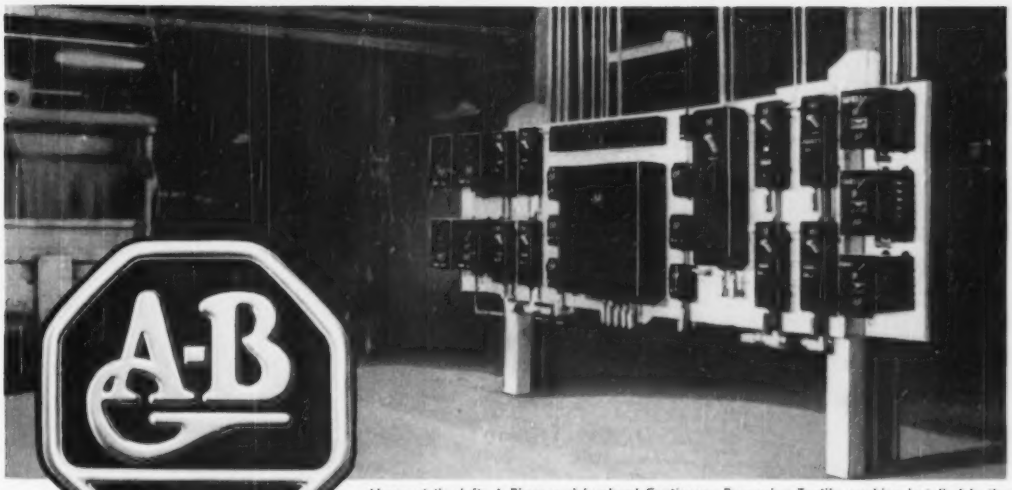
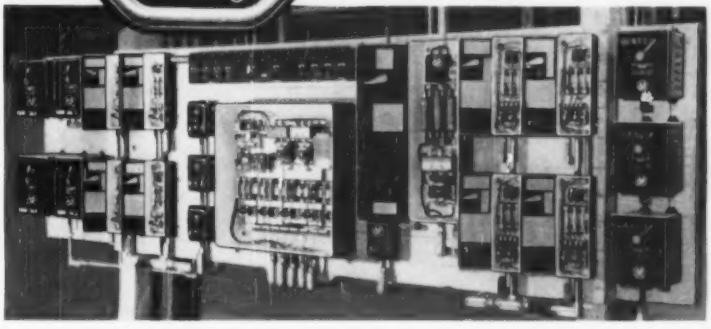


Above at the left: A Riggs and Lombard Continuous Processing Textile machine installed in the Wilton Woolen Co. mill. Above at the right: Control board for this machine, Allen-Bradley equipped.



Close up of control board. Here is complete trouble free control for this gigantic washer — Allen-Bradley equipment provides wash control, rinse control, squeeze control. A master control relay is also installed. A row of push button stations with indicating lights warns the operator when any section of the drive is out of order. The following famous A-B controls are used: Bulletin 555 A-C Manual Speed Regulators, Bulletin 712 Combination Starters, Bulletin 609 Manual Starters, Bulletin 702 Contactor, Bulletin 800 Push Buttons, and a Special Laundry Control Panel.

Continuous Processing Textile Machine

Uses Trouble Free A-B Motor Controls

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Allen-Bradley Co., 120 West Greenfield Ave., Milwaukee 4, Wis.

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Where there is no need for remote push button control, A-B Bulletin 609 Manual Starters are satisfactory; where remote or automatic control is essential, A-B Bulletin 709 Solenoid Starters are required. If velvet smooth starting is needed, specify A-B Bulletin 640 Manual or Bulletin 740 Automatic Resistance Starters.

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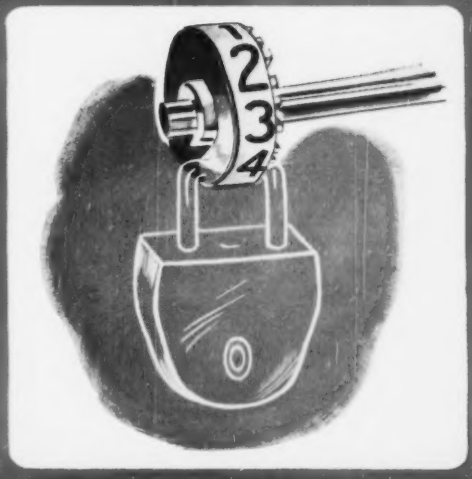
Soon Pay for NEW 2-3 Pick Counters

in any Modern Mill



1. Easy Resetting:

Quick and easy as a snap of the fingers . . . Streamlined plastic reset knobs enable V-R 2-3 Pick Counters to be reset in double-quick time. *No pull-out required.* And no sharp edges to hurt the hands and slow work.

2. Locked Wheel:

Mechanical overthrowing is stubbornly resisted by this "inner-locking" wheel, which is really 2 wheels in 1. Disengaged with the shaft spline, this wheel resists overthrowing. And engaged with the spline, it resets to zero.

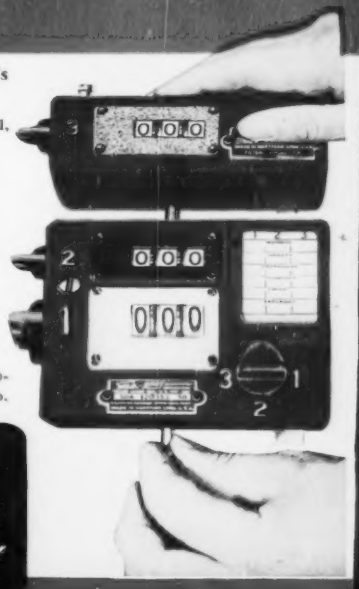
THESE ARE ONLY 2 of the 14 Vantage Points you get when you buy today's modern model of the V-R 2-3 Pick Counter. *You also get:*

QUICK CONVERTIBILITY, from 2 to 3-shift operation right in the mill, by your own men.

COMPRESSION CLAMPS that cut installation cost.

BOLD VISIBILITY that speeds up reading time.
YALE LOCK on front door.
NEW WHEELS give strength plus low weight.
STEEL MOUNTING INSERTS give extra strength against vibration.
ALL METAL PARTS TREATED against corrosion.

COMPLETE INSTALLATION — no extras to buy.



Let the Veeder-Root Field Engineer show you all these advantages of equipping your looms with *new* 2-3 Pick Counters . . . and Loom Cut Meters, too. Get in touch with the nearest office.

VEEDER-ROOT INCORPORATED

HARTFORD 2, CONNECTICUT • GREENVILLE, SOUTH CAROLINA

"Counting House of the Textile Industry"

Booth 107 at the Greenville Show, October 2-7